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ROYAL COMMISSION OF INQUIRY INTO CERTAIN  
DEATHS AT THE HOSPITAL FOR SICK CHILDREN AND  
RELATED MATTERS.

Hearing held in Court Room 20  
Court House  
361 University Avenue  
Toronto, Ontario

The Honourable Mr. Justice S.G.M. Grange

Commissioner

P.S.A. Lamek, Q.C.

Counsel

E.A. Cronk

Associate Counsel

Thomas Millar

Administrator

Transcript of evidence  
for

July 27th, 1983

VOLUME 17

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AND RELATED MATTERS.

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Court House, 361 University  
Avenue, Toronto, Ontario, on  
Wednesday the 27th day of  
July, 1983.


THE HONOURABLE MR. JUSTICE S.G.M. GRANGE - Commissioner  
THOMAS MILLAR - Administrator  
MURRAY R. ELLIOT - Registrar

APPEARANCES:

|                     |                                 |
|---------------------|---------------------------------|
| P.S.A. LAMEK, Q.C.) | Commission Counsel              |
| E. CRONK )          |                                 |
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| M. THOMSON )        |                                 |
| B. PERCIVAL, Q.C.)  | Counsel for The Metropolitan    |
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| W.N. ORTVED)        | Counsel for numerous Doctors    |
| K. CHOWN )          | at The Hospital for Sick        |
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|                     | and 35 Registered Nurses at     |
|                     | The Hospital for Sick Children  |

(Cont'd)





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APPEARANCES: (Continued)

|                                 |   |
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| W.A. BOGART                     | Counsel for Susan Nelles - Nurse  |
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| M. ROSENBERG                    | Counsel for Sui Scott - Nurse   |
| M. MANNING, Q.C.)<br>S. LABOW ) | Counsel for Mr. & Mrs. Gosselin, Mr. & Mrs. Gionas, Mr. & Mrs. Inwood, Mr. & Mrs. Turner, Mr. & Mrs. Lutes and Mr. & Mrs. Murphy (parents of deceased children) |
| W.W. TOBIAS                     | Counsel for Mr. & Mrs. Hines, (parents of deceased child Jordan Hines)  |
| J. SHINEHOFT                    | Acting for Lorie Pacsai and Kevin Garnet (parents of deceased child Kevin Pacsai)   |
| F.J. SHANAHAN                   | Counsel for Mr. & Mrs. Dominic Lombardo (parents of deceased child Stephanie Lombardo); and Heather Dawson (mother of deceased child Amber Dawson)              |

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/ET/ak

---Upon commencing at 10:00 a.m.

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THE COMMISSIONER: Yes, Mr. Lamek.

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MR. LAMEK: May I have Dr. Rowe,

5

please.

6

DR. RICHARD DESMOND ROWE, Resumed

7

DIRECT EXAMINATION BY MR. LAMEK: (Continued)

8

Q. Good morning, Doctor.

9

A. Good morning.

10

Q. Doctor, before we go on to

11

the next death that I want to ask you about, that  
of David Leith, may I ask you this, please: you said

12

yesterday in the course of explaining to me the

13

reviews and enquiries that had been made about the

14

deaths of children who died after December 31st,

15

1980, that in the situation or atmosphere (I can't  
remember your exact word) in the situation that

16

prevailed after March, 1981, you had to recognize

17

the possibility that all of the deaths that we

18

have been discussing or about to discuss may have

19

been caused by digoxin intoxication.

20

Do you recall saying something like

21

that to me?

22

A. Yes, I did.

23

Q. Perhaps it should have

24

occurred to me at the time although maybe foolishly

25





1  
2 I thought the answer was obvious, but why did you  
3 have to recognize that possibility with respect to  
4 all the deaths in the situation after March, 1981?

5 A. Well, we realized that the  
6 police were going to go back on an investigation,  
7 and that raised that question very clearly to us,  
8 and that was the reason.

9 Q. Was it your expectation that  
10 the police would discover something that you in your  
11 own reviews to the end of 1980 had not been able to  
12 discover?

13 A. Well, we realized that was  
14 possible.

15 Q. And so do I summarize your  
16 attitude correctly, that being so, you and your  
17 staff of cardiologists let the police at it?

18 A. Yes.

19 Q. And awaited the outcome of  
20 their investigation?

21 A. We simply took the position  
22 that they were undertaking an investigation and we  
23 would co-operate as much as we could, as much as they  
24 wanted.

25 Q. We will talk about this later,  
perhaps much later in the course of this Inquiry, but







1  
2 indeed you did consult with and express views to the  
3 police in the course of their investigation, did you  
4 not, along with your fellow staff cardiologists?

5 A. Yes, I believe everybody did.

6 Q. Yes. We may get to some of  
7 that in the course of this week but I suspect most  
8 of that will come later.

9 Dr. Rowe, can we go on to the case  
10 of David Leith, please. He was born on January 23rd,  
11 1981. He was admitted to the Hospital for Sick  
12 Children on January 31st, and he died on March 6th,  
13 1981. Let me give you a copy of this chart.

14 A. Thank you.

15 Q. Dr. Rowe, on the easel  
16 behind you there is a diagram supplied by the  
17 Hospital which I understand sets out in diagramatic  
18 form the structure of the heart of David Leith.

19 Can you tell me if it does so with  
20 reasonable accuracy?

21 A. Yes, it does.

22 MR. LAMEK: May that be the next  
23 exhibit please, Mr. Commissioner?

24 THE COMMISSIONER: Exhibit 107.

25 ---EXHIBIT NO. 107: Heart Diagram of David Leith.







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MR. LAMEK: Q. Would you please  
describe for us that anatomy, Doctor?

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A. Yes. This boy had as his  
major defect a form of, a complete form of the  
atrioventricular defect about which we have spoken  
before. That is there is a large segment of the  
septum at the level of the ventricles which is  
missing, and also a large segment of the atrial  
septum is missing.

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There is a common atrioventricular  
valve, meaning there is just one large valve, which  
is quite different from the normal two valves  
situation, separating the atria and the ventricles.  
In addition to that particular  
arrangement, which we have seen before, there was  
an abnormality of the ventricular size, one to the  
other, so that the left ventricle was small. The  
right ventricle was correspondingly larger, and in  
addition, within the heart, there is a degree of  
sub-aortic obstruction or stenosis, so the intra-  
cardiac anatomy is primarily an atrioventricular defect  
which consists of the large communications plus the  
single valve, but in addition to that there was a  
hypoplastic or underdevelopment of the left  
ventricle or left pumping chamber and there was





1  
2  
3 sub-aortic obstruction which prevented, or made it  
4 more difficult for blood to get out into the aorta.

5 Externally there were additional  
6 anomalies, the principal one being coarctation of  
7 the aorta which has been repaired at this point here,  
8 and the patency of the ductus arteriosus which is  
9 part of the normal process but may be very important  
10 in those who have congenital heart disease, so the  
11 circulation in this baby came in in the usual way  
12 to the right side and then started to mix rather  
13 completely so that blue blood and red would form a  
14 somewhat desaturated amount.

15 It would go down to the right  
16 ventricle and would be pumped out to the lungs. Some  
17 of it would go across the defects, but predominantly  
18 blood would go through to the lungs.

19 Then it would come back from the  
20 lungs to the left side and down here into this  
21 small chamber, and some of it would go out into the  
22 aorta. But since there was resistance to the passage  
23 both at the sub-aortic level and at the point where  
24 there was coarctation, then it would be likely that  
25 a lot of the blood would come over to this side and  
go out to the artery and perhaps through the ductus  
and into the descending aorta.







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It is a complicated circulation,  
much more so than the ordinary case of atrioventricular  
defect.

Now the intracardiac anatomy is not  
capable of being resolved because of the difference  
in the pressures. Palliative surgery might be  
possible at a very much later stage, but the only  
thing that could be offered at this point for this  
baby was the repair of the coarctation of the aorta  
and ligation of the ductus arteriosus which was  
done.

That was the only practical surgical  
procedure that could be offered, and it was carried  
out. The situation, however, is very precarious  
because of the remaining internal architecture and  
the considerable difficulties of avoiding progressive  
congestive failure.

Q. Dr. Rowe, if the internal  
anatomy of the heart is not capable of being repaired  
surgically at the kind of age that this child  
presented, what are the prospects of the child if  
all that is done is the repair of the coarctation  
of the aorta?

A. Then they were not very good,  
but they were a chance we were taking in the event







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that the predicted course might in an individual  
case might be somewhat modified.

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Q. Now, Doctor, the Hospital  
records of this child and the way it has been copied  
for you and for everybody begins its numbering at 91,  
therefore if I refer you to page 96 it is very close  
to the beginning of the book.

9

A. Yes.

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Q. It appears from page 96 that  
the baby was referred to the Hospital for Sick  
Children from the Owen Sound General and Marine  
Hospital at eight days of age. And a little further  
into the information that accompanied the baby to  
the Hospital, at page 102 to 103, it appears that  
he presented at that hospital not feeding well,  
had some seizure activity, dusky; he had apparently  
been given digoxin at that hospital, and the level  
six hours after administration of the dose was 3.2  
nanograms.

19

20

That appears on page 103, two-thirds  
of the way down the page.

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"Dig level six hours post injection  
3.2 nanograms per millilitre."

23

24

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A. Yes.

Q. Had lasix also been





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administered? It appears from page 104. Certainly there is reference to lasix on the lower half of the page. I am not sure from that note which I have difficulty discerning in any event whether it indicates it had been administered.

7

A. It looks as though it was given intramuscularly.

8

9

Q. And a heart murmur had been spotted at the Owen Sound Hospital?

10

A. Yes.

11

12

13

Q. That appears further up on page 104. And the child had a fast respiratory rate, did he not?

14

A. Yes.

15

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Q. Now on admission to the Hospital for Sick Children, and I am looking now at the discharge report on page 121, it appears that the child was in severe congestive failure. That is on January 31st, 1981.

19

20

21

It was suspected that there was coarctation of the aorta, and indeed cardiac catheterization disclosed that that was so.

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Did it also reveal the defects that you have identified for us already, Dr. Rowe, on the diagram?







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A. I believe it did, but I haven't - I would have to look at the catheterization report. Do you have a number for that?

Q. 198, I believe.

A. That is the report of the angiogram.

Q. That is the angiogram, is it?  
I'm sorry. Page 196.

A. Yes. Thank you.

MR. SCOTT: What page?

MR. LAMEK: 196.

THE WITNESS: Yes. I think the combination of those two reports, 196 and 198, cover the anatomy that I have outlined.

Q. Now the catheterization was performed apparently, on page 196, on the 1st of February.

On the 2nd of February the child underwent surgery for repair of the coarctation and ligation of the ductus, did he not?

A. He did.

Q. After surgery he continued in heart failure and was treated with digoxin and diuretics?

A. Yes.





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Q. And despite what appeared to be from the chart strenuous efforts to get the child feeding well, he did not thrive, did he?

A. No.

Q. And 10:25 on the morning of March the 6th, 1981, he had a cardiac arrest and died and no autopsy was performed.

Now touching the major milestones of the child's course through the Hospital, is that a fair summary of the thing, Doctor?

A. Yes, that is a quick trip.

Q. Can you tell me, please, from your review of the chart, Dr. Rowe, what you consider to be of significance here in understanding the death and the time of death and the manner of dying of this baby, David Leith?

A. Well, it was hoped, of course, that he would do better after operation than he did, but it became evident in the Intensive Care Unit where he was for two weeks that it was going to be a difficult business to pull him through.

He had many things that created problems, particularly the heart failure which we sort of expected, but that seemed to continue and be progressive.







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He had problems with atelectasis  
and in feeding as you have noted and he had some  
problems with his electrolytes as well; his potassium  
was elevated during that period.

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BMB.jc

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discharged to the fourth floor with the note that he should have further close observation and that he should have chest physiotherapy and maximal anti-failure therapy.

He was like that and slowly I think over that period his failure seemed to get worse despite the therapy and he develops some problems with seizures again. Some of these caused concern to the nurses I think who were looking after him as well as the physicians. He had a neurological consultation again and was found to have an abnormal electroencephalogram and I think that he was further studied for that because this suggested some focal signs in the brain on the right side but the studies were deferred because of his serious cardiac status.

Then he started around about the 6th of, on the morning of the 6th of March I think it was, he was under this regimen and he was obviously not picking up and there was a discussion I think, not on the 6th, I guess on the 4th of March, that his failure was worse.

He was having severe oliguria with not a great response to diuretics. He had massive enlargement of the heart and pulmonary edema on his X-ray and some discussions obviously went on between





B.2

1  
2 the cardiologists there about the fact that he was  
3 rapidly approaching a situation of inevitable death.

4 So that that was discussed with the  
5 staff cardiologist on the ward. I think the  
6 discussion was actually with Dr. Isukawa. It may have  
7 been at a time in the evening when he was on duty.  
8 The decision was made virtually to not resuscitate  
9 and the parents, I think the mother was said to have  
10 been informed.

11 So, a situation was reached around  
12 that time, I don't know, I think it was on the 4th  
13 but it may have been a little later. At any rate,  
14 treatment obviously began to reach the point of  
15 supportive, although, all the measures were proceeded  
16 with and that wasn't enough and the baby died.

17 Q. All right. Now, Doctor, am I  
18 right as I read the chart, and we referred to  
19 particular matters in it, but as I read the chart, the  
20 writing was being read on the wall with respect to  
21 Baby Leith really by the middle of February. It was  
22 a rather gloomy prognosis from that time on, was it  
23 not?

24 A. Yes, I think that's a fair  
25 statement, yes.

Q. If we just look at the post-







B.3

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operative course, for example, starting at page 137.

3

Certain aspects of his time in the ICU, on the day

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that he goes to the ICU from surgery, February 2,

5

notes for which start on page 137, the right lung

6

atelectasis is already noted as a complication, so,

7

he had a respiratory difficulty from the time that

8

he arrived in the ICU, did he not?

9

A. Yes.

10

Q. He is recorded as being dusky,

11

having shallow respirations and, at the bottom of the

12

page, recorded as having an episode of bradycardia

13

to which, after being put in oxygen, he responded. The

14

shallow respiration continued and he's on ventilatory

15

support?

A. Yes.

16

Q. Page 138, which again is within

17

a short time of his going to the ICU, he appears, does

18

he not, to be displaying symptoms of congestive heart

19

failure, down at the very bottom of the page, his

20

liver is enlarged and extends 3 centimetres, I take

21

it below the costal margin?

A. Yes.

22

Q. And that is indicative of

23

congestive heart failure, isn't it?

24

A. Yes.

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Q And on page 139, as you say, the proposal was therefore, from the very outset of his postoperative course, to treat him with maximum digoxin diuretics, maximum treatment I take it for the congestive heart failure that was already developing?

A Yes.

Q On page 44 it appears, recorded in the middle of the page - well, there are two things recorded in the middle of the page. Just above half way down "Improved air entry to right upper lobe ...", and what's RML?

A Right middle lobe.

Q Right middle lobe?

A Yes.

Q That would have been my guess, I can tell you. And then shortly below, immediately below that, increased respirations LCU. What is "CU", LUC collapse - no, LUL, I'm sorry?

A LUL.

Q "The right side has improved".

THE COMMISSIONER: I'm not on the same page.

MR. LAMEK: I'm sorry, page 140, Mr. Commissioner.







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THE COMMISSIONER: 140.

MR. LAMEK: Yes. 140, there are two notes, one just above the middle of the page, one just below the middle of the page. The one above "Improved AE (air entry) to right upper lobe and right middle lobe" and then the next note down "resp. increased respiratory rate was left upper lobe collapsed today although the right side improved".

THE WITNESS: Yes.

MR. LAMEK: Q. So, he continued in that early postoperative period to have trouble with his lungs and therefore I take it with his respiration. Lower down the page it is recorded again that the right upper lobe and the right middle lobe are improving. Can you help me with the note just above that, Doctor, "Left upper lobe ... "?

A. Density.

Q. Density, right.

The fast shallow breathing seems to be relatively constant of this poor child?

A. Yes.

Q. By February 15th or 16th, however, and if you look for example at page 146, 147, he seems to be stabilizing a little, does he not? On page 147, it's recorded on the 16th at 5:30 in the evenings, among other things, that his chest sounds





B.6

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clear and that he comes from the ICU. His heart rate,  
towards the bottom of the page, is recorded as - is  
that 130 to 140?

5

A. This is on page 145?

6

Q. 147.

7

A. All right.

8

Q. But it is recognized that  
although he doesn't appear to be in enormous distress,  
at the bottom of the page, probably poor prognosis.

10

By the middle of February it is  
becoming clear that the outlook for this child is not  
good.

13

A. Yes.

14

Q. On page 148, the Cardiology  
Fellow's note, Item No. 6 records, as one of the  
problems, congestive heart failure with increased  
respiratory rate, enlarged liver, enlarged heart and  
pulmonary edema and poor feeding.

18

It is a pretty clear picture of  
worsening heart failure as the month of February goes  
by. The final note on the page "Liver 3 centimetres"?

20

A. Yes.

21

Q. Merely detailing the enlargement  
of liver noted in Item 6 of the Cardiology Fellow's  
note.

22

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During the day on February 17th,  
did he not develop arrhythmia, on page 149?

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A. Yes, he did.

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Q. It is reported that his apex  
of 149 to 161, 146, the four-hourly intervals at  
which it was taken, was regular until at, is that  
5 p.m., 1700 or 1400 hours. It's not clear. When  
the rhythm became very irregular, twice.

9

A. Yes.

10

11

Q. He was hooked to a monitor, the  
apex continues to be irregular.

12

A. Yes.

13

14

15

Q. So, there are two episodes of  
arrhythmia and then a continuing irregularity on  
February 17th, breathing continues to be fast and  
shallow.

16

A. Yes.

17

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Q. Very pale, perspiring, he is  
cool and clammy, no emesis, but he's got poor urinary  
output.

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That picture continues, does it not, through February 18, February 19, continued rapid breathing, page 155, by the time we get there, more episodes of arrhythmia.

Doctor, what, in the case of progressive heart failure such as this, produces arrhythmia?

A. It is the stretching of the heart chambers and it is also disturbance of electrolyte function in the wall and so on, but it is mainly the dynamics of the heart being overstressed, affects the electrical system.

Q. There was no concern in this period that the episodes of arrhythmia were in any way connected with the digoxin administration that was going on?

A. No, I do not think -- well, I think there may have been some in early March perhaps.

Q. Well, Doctor, page 269, there are digoxin levels recorded for the 16th, 18th, 19th and 23rd of February, the period that we are looking at?

A. Yes.

Q. And those levels are not such





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as to cause any concern, are they?

A. I would not have thought so, but I think that when the arrhythmia was noted, the resident -- I am not sure what happened during the period you have just been describing because the only one physician note around the 19th of February did not mention the arrhythmia. But there was a note, I think in March, the 2nd of March, and I do not know what -- that must be around 170 or something like that -- let me just see if I can find it -- in which the resident says "Hold dig tonight and reassess after the dig level", which is ---

MR. PERCIVAL: Mr. Lamek, I think it is page 235.

MR. LAMEK: 235, thank you.

Q. Yes, there is an order on page 235 on the 3rd.

A. "Hold dig tonight" and "dig level tomorrow", and I do not know what that ---

Q. It is either the 2nd or the 3rd, depending on whether Dr. Runge puts his month or his date first.

A. Oh, that is right, yes, I had forgotten about Dr. Runge, yes.

Well, I think that that level was







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a little higher than the others, but I think that they were still not outstandingly so. But I think that was a prudent thing perhaps to have done and to consider. Nevertheless, the picture did not really suggest, I agree, from the previous levels and so on that there was any big problem with digoxin.

Q. Now indeed, the level that is recorded for a sample on the 2nd of March, Doctor, is on page 271 is a level of 2.8?

A. Yes.

Q. A little higher than the others had been, but not grossly elevated?

A. No, I do not know what they did about the digoxin order after that time.

Q. But I take it, Doctor, it is one of those situations that we have seen before where the tightrope is being walked to provide as much medication support to the child as possible without edging into clear toxicity; is that really what is going on?

A. Yes, I think in fact in that case they did restart the digoxin on the 4th, so they held it for a few doses apparently and then started back because they could not really stop the drug or that would have been probably the end of things.





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3 Q. That order, Mr. Scott tells  
me, is on page 237.

4 MR. COMMISSIONER: I notice that  
5 Dr. Runge seems to have two systems, unless these  
6 papers are way out of order, because if you look on  
7 page 237, he has "4/3/81" at the top.

8 MR. LAMEK: He has got the month  
9 in the middle on that one.

10 THE COMMISSIONER: Which is  
11 obviously the 4th of March, but I think at the  
12 bottom of page 235, "3.2.81" is clearly the 2nd of  
March.

13 MR. LAMEK: Q. It may be that he  
14 is inconsistent in the way that he records the days  
15 and months in numerals in that way.

16 A. I think Dr. Runge either did  
17 a lot of his training or went to medical school in  
18 the country below the border, and he got schizophrenic  
about the numbers perhaps. We all have that problem

19 Q. On February 23rd on page 158,  
20 Dr. Runge has another note in the chart. He records  
21 among other things that the baby is not feeding as  
22 well today as previously, vomiting small amounts  
23 after feeding, chest looks reasonably good and free  
24 of sounds, in any event.  
25





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A. Yes.

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A. Yes.

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Q. Lasix being administered and  
dig level to be taken today.

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The note that follows it also refers  
to the problems that are coming from the cardiac  
failure. So this picture is pretty clearly developing,  
Doctor, as you have said. The same thing through  
the 24th, the 25th on page 160.

18

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By the time we get to the end of  
the month, February the 28th, page 166, the last  
note on the page, it is pretty clear that this child  
is getting no better, is it not, and indeed he is  
getting worse?

22

A. Yes.

23

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Q. As you have said, by the  
time we get into March, it is a very gloomy picture  
indeed.







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3 At page 178, March the 6th, we have  
4 a Cardiology Fellow's note, at 177 and 178. They  
5 are both on the 6th of March. Perhaps we should  
6 look at the earlier one first. Five o'clock in the  
7 morning on the 6th he is worse; fast breathing,  
8 cyanosed, distressed, indrawing in his respirations,  
9 his urinary output is reduced, pulmonary oedema,  
10 huge enlargement of the heart, hold next dose of  
11 digoxin.

12 On 178, the Cardiology Fellow's  
13 report, congestive heart failure worsened. Here we  
14 have the note, do we not, "Plans: No ETT-medical  
15 treatment only".

16 A. Yes.

17 Q. Can you tell us, Doctor,  
18 what is ETT?

19 A. Well, that is short for  
20 endotracheal tube, and I suppose that what he is  
21 really saying there is that there is no ventilatory  
22 support to be offered. I am sorry, that the plan  
23 would be not to offer ventilatory support.

24 Q. Is that different from  
25 a do not resuscitate order?

A. Well, it is virtually the  
same thing because -- I do not know quite why he has





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expressed it in that way, but that would really imply  
that the decision has been made not to resuscitate.

3

4

Q. Certainly it is my recollection

5

from the resuscitation efforts that we have seen in

6

so many of these cases that an almost routine step

7

in that is to intubate the baby?

8

A. Yes indeed, and ventilate

9

if necessary.

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Q. On page 179 at 10:25 on

March the 6th, the baby dies.

11

The observations are interesting,

12

are they not? Respirations-gasping from 60 to 28

13

down to zero; apex 128 down to 100 down to 60 down

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to zero.

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A. Yes.

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Q. Obviously a slowing

respiratory rate, a slowing heart rate until they

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both stop.

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A. Yes.

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EMT.jc  
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Q Now clearly, Doctor, from what you have said, in the quick course we have taken through the chart, there was nothing could be done for David Leith?

A I don't believe there was. Not anything more than had been done.

Q And is it fair that the terminal events of this child as they are recorded on page 179 of the chart, those terminal events followed a long and perceptible and steady decline really from the time immediately after surgery?

A Yes.

Q There were not any dramatic terminal events in the case of this child as there have been in so many of the cases that we have looked at? Terminal events, I suppose, are always dramatic, but you know what I mean, in comparison to the sudden decline that we have seen in other children?

A Yes.

Q Indeed, Doctor, are these events as recorded not substantially different from the terminal events of, say, Janice Estrella that we looked at yesterday or Jennifer Thomas that we looked at yesterday, where from what appears to be a plateau of some relative stability there is a precipitous decline?







D.2

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A. Yes.

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Q. Do they not more closely resemble the terminal events that we saw in a case such as Paul Murphy or Laurette Heyworth?

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A. Yes, they do.

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Q. Doctor, are you satisfied that the death and the time of death and the manner of dying of David Leith were consistent with his clinical and anatomical condition?

10

A. Yes, I am.

11

12

13

Q. And that those things, his anatomical and clinical condition in your judgment, were the cause of his death?

14

A. Yes, they were.

15

MR. SCOTT: Is Mr. Lamek going to ask his usual question --

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17

THE COMMISSIONER: I was wondering - I was waiting for it.

18

19

MR. SCOTT: -- whether they are consistent with digoxin toxicity but not indicative of.

20

MR. LAMEK: If Mr. Scott wants me to ask that I would be glad to.

21

22

MR. SCOTT: Oh, no, no.

23

MR. LAMEK: Q. Are they consistent with digoxin intoxication?

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D.3

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A. Yes, they are.

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Q. Which of the symptoms of digoxin intoxication are exhibited in the terminal events of David Leith?

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A. The slowing of the heart rate.

7

8

Q. The slowing of the heart rate?

A. Yes.

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11

Q. Is that an arrhythmia of the kind that we have seen in other children?

A. No, but it is a slowing of the heart rate --

12

13

Q. All right.

A. -- which could be accounted for by digoxin.

14

15

Q. It could be?

A. Yes.

16

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Q. Are there any other acknowledged symptoms of digoxin toxicity that were present in the terminal events as recorded of David Leith?

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A. We don't know because he was in his mother's arms for that period and wouldn't be observed with the same intensity that the other babies - I think this is probably a do not resuscitate baby.

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Q. I say as recorded.





D.4

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A. Yes.

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Q. That is why I say as recorded.

4

A. Yes. As recorded, yes.

5

Q. In the events as recorded are

6

there any other symptoms of digoxin intoxication?

7

A. No, only the evidence of

8

slowing.

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MR. SCOTT: I am sorry, I brought it

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to Mr. Lamek's attention in the hope that he might  
refer to it and not oblige us to wait three weeks.

11

But this case has one common feature with the

12

Estrella case in that digoxin was ordered held on the

13

very day the baby died, so that parallels the

14

Estrella case where digoxin was held I think some  
three or four days I think before the baby died.

15

MR. LAMEK: With, of course, rather

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different levels having been recorded.

17

MR. PERCIVAL: That is not what the

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record shows. The record shows it was held on

19

March 2nd and was restored on March 4th. If you take  
a look at the administration notes --

20

MR. SCOTT: No, if you take a look

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at 238 you will see it was held on the 6th of March.

22

MR. LAMEK: That is right.

23

MR. SCOTT: Which was the day the baby

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D.5

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died. I simply draw that to your attention because that is parallel to the Estrella death. I should perhaps wait my turn.

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THE COMMISSIONER: Yes.

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7

MR. SCOTT: Selective presentation of the charts always causes difficulties. It does for me as it does for Mr. Lamek.

8

9

MR. LAMEK: I hadn't realized that it was, Mr. Commissioner.

10

11

12

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Q. Dr. Rowe, to the extent that there was a hold digoxin order on the final day of life of David Leith and of Janice Estrella, I suppose it may be said, may it not, there is a parallel between the two?

14

15

A. In that digoxin was not given.

16

17

18

Q. In that respect. Is there a parallel with respect to the digoxin levels that were being recorded in the two children at the time of the old digoxin order?

19

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A. No, they were higher in Estrella.

21

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Q. They were substantially higher, were they not?

23

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A. Yes.

Q. Higher than 4.7 was the level





D.6

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recorded on the day, the last day before she died?

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A. I am not sure what the level was at the time when the digoxin was withheld, but it did get to higher than 4.7 at the end.

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Q. Yes. Thank you.

7

Can we go on to Jordan Hines, please?

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Now, Dr. Rowe, Jordan Hines was born on February 16, 1981. He was admitted in the very, very early hours of March 6, 1981 at the Hospital for Sick Children. 12:40 a.m., and he died in the Hospital on Ward 4B on March 8, 1981.

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13

14

Now you have on the easel behind you a diagram which, as I understand it, says it is representative of the heart anatomy of both Baby Hines and Baby Pacsai which we will be coming to later.

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16

17

Can you confirm for me, please, that it does indeed accurately in a diagrammatic way show the anatomy of Baby Hines' heart?

18

19

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A. Yes.

MR. LAMEK: May that be the next exhibit, please, Mr. Commissioner?

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THE COMMISSIONER: Yes. 108.

Can we confirm that is also the

diagram for --

MR. LAMEK: I don't know whether you have the Pacsai chart in front of you?

THE COMMISSIONER: No, no. It doesn't





D.7

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matter, but if it is going to be for both, should we

3

not make it an exhibit --

4

MR. LAMEK: Q. Can you tell us now,

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Doctor, if it is indeed from your review of the

6

Pacsai chart, an accurate representation diagrammatically

7

of that heart as well?

8

A. Yes, I would say so.

9

MR. LAMEK: So, perhaps it could be  
marked now?

10

THE COMMISSIONER: All right.

11

MR. LAMEK: Do double duty, Mr.

12

Commissioner.

13

--- EXHIBIT NO. 108: Heart Diagram of both  
Jordan Hines and  
Kevin Pacsai.

14

MR. LAMEK: Q. Now, Doctor, I under-

15

stand from my reading of the chart and indeed from the

16

diagram that appears there that structurally the

17

heart of Jordan Hines was perfectly normal?

18

A. Yes.

19

Q. Can you tell us what if anything

20

is depicted on the diagram that is anomalous or that has

21

any significance when considering the death of this  
child?

22

A. No. The only addition that has

23

been made to the diagram is the outline where the

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D.8

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conducting system is because there were questions  
about the conduction system in both babies.

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Q. Perhaps you could describe  
that for us, please. Those are the faint or dotted  
lines, are they?

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A. Yes.

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Q. I can't see very clearly from  
here.

A. It is really not meant to  
represent anything other than the normal cardiac  
anatomy with the chambers in their proper places;  
valves are patent, no obstruction or anything of that  
sort.

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The dotted lines are simply a  
reminder for you of the conduction system of the heart,  
the electrical system of the heart. The sinus node  
up here, the atrioventricular node down here; the  
way in which the impulses are transmitted across the  
top chamber and the method by which the impulses reach  
the lower portion, but it is a normal diagram.

20

21

Q. And the conduction system that  
is shown on that normal diagram is, I take it, a  
normal conduction system?

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A. Yes, it is.

Q. And indeed had the conduction





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system been shown on the standard diagram on the left side as I look at it --

A. Yes.

Q. -- we wouldn't have needed a diagram at all for the Hines baby?

A. Yes.

Q. The discharge or death report at page 31 of this record, Doctor, sets out I think a summary of his course. Can we have that stated, please?

He was transferred from the North York General Hospital at what, 18 days of age?

A. Yes, on the 4th.

Q. He had been admitted to that hospital on March 4th?

A. On the 4th, yes.

Q. Where he had a number of things. Arrhythmias, some tachycardiac periods, some bradycardiac periods; there had been a choking spell and cough, and some episodes when he didn't breathe at all; periods of apnea.

A. Yes.

Q. When he went to the North York General Hospital there was no obvious heart murmur but he did have a fluctuating heart rate, fluctuating





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between 90 and 170. Lethargic appearance and dusky appearance.

We have spoken about that before.  
That means something just this side of cyanotic, does it?

A. Yes.

Q. When he arrived at the Hospital for Sick Children shortly after midnight, 30 or 40 minutes past 12 on the 6th of March, again he had a fluctuating heart rate recorded I think between 90 and 200 beats per minute; no heart murmur, no extra-cardiac sounds and apparently in no distress.

He was examined by chest X-ray. It showed that his heart size was normal.

There was also an observation of infiltrates in the lingular section of his left lung.

Is that the part of the lung that sticks out at the bottom?

A. No. It is about the upper third; junction of the upper third and lower thirds of the lung.

Q. Why is it called lingular?

A. Tongue. It is a --

Q. The shape?

A. Shape of a tongue, yes.

Q. And infiltrates, please? What is referred to there?







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A. Infiltrates is something that one sees with pneumonia. It is a density on the film which shows up which is suggestive of pneumonia.

Q. And perhaps the same observation in the right upper lobe?

A. Yes.

Q. He also had an ECG which showed a heart rate of 90 to 200 and suggestion of right ventricular hypertrophy.

There was also an echocardiogram which showed that the heart was structurally normal.

With all of that, Doctor, why was this baby sent to the Cardiology Ward?

A. Well, I think that he was sent there because of the previous observations of the cardiologist who referred him to the Hospital.

Q. The arrhythmia?

A. And the fact that he found his liver to be very enlarged and that he had evidence that he thought was heart disease. He interpreted the X-ray findings as being congestion rather than infection.

Q. Yes.

A. And he was worried about the brady/tachycardia, the slow-fast situation, so he





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thought, although he didn't know what the cause of all this was, he thought that it was a possibility of something quite serious with the conducting system, either primarily or because of something else.

I think he even mentioned the possibility of a cardiac tumour, and there was a dysrhythmia.

While he was examining the baby I think he reports that there was severe apnea and bradycardia and then that went into a condition he determined was paroxysmal atrial tachycardia with a two to one block, meaning that he perceived there was a very rapid rate and that the atrial rate was going twice as fast as the ventricular rate but it was still - it was not like a congenital heart block; it was a functional block because the heart rate of the top level was so fast.





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So, I think it was for those reasons that he referred the baby down at that hour of the day and thought it should be seen by the Cardiology group. I agree that the physical signs at the time of admission did not seem to be quite as alarming as the signs that he had had earlier.

Q. In any event, the child was admitted to Ward 4B I believe?

A. Yes.

Q. Where he was placed on a heart monitor and an apnea monitor.

A. Yes.

Q. Was infection suspected at that time, Doctor?

A. I think it probably was because the x-ray was consistent to the doctor's and I think that he was started on antibiotics.

Q. Yes, he was.

A. He was started on ampicillin and gentamicin, which are two antibiotics which are generally used in a patient who might have sepsis.

Q. Yes.

A. At this age.

Q. And blood and urine were taken and cultures?





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A. Yes.

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Q. In fact, those cultures all  
came back negative, did they not?

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A. I believe they did.

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Q. The antibiotics were  
prescribed as you have said, and on page 66, which  
is well towards the back of this book, it is recorded  
on the 6th of March, that the baby was still having  
apneas with bradycardia. That is recorded on the  
5th of March, at the top of the page, when in fact  
the child wasn't there on the 5th of March. He was  
admitted at 2430. But there I take it, that is  
a recording of the history with which he is being  
admitted, at the very top of the page.

14

A. That's from a nurse I think.

15

Q. Yes.

16

A. Yes.

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Q. The note half way down the  
page 6/3/81, he was still having those episodes of  
apnea and bradycardia?

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A. Yes, it does look like that.

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Q. Yes. Now, at page 31, going  
back to the discharge report, Doctor, the death note,  
page 31, there is reference half way down the page,  
final paragraph on the page under Hospital Course,  
to the child, while still being under observation in







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the Hospital having had an apneic episode lasting 15 to 20 seconds on the 8th of March which is then followed by a period of bradycardia.

I confess, I have not been able to find that. I wonder if you can help me. The notes for the 8th of March appear to be on page 68 and the arrest note is on page 69.

Miss Cronk points out to me, the top note on page 68, Doctor, at 0410, and it is very difficult to read, it is recorded the apneic monitor went off, but I see no reference in that, that I can read anyway, to the episode of apnea lasting 15 to 20 seconds.

A. No, I can't.

Q. Well, the author of the discharge report, Dr. Schaffer, may have had information that doesn't appear to be available in the chart.

But in any event, on the 8th of March, in the early hours of the morning, he did have a period of apnea which was reported on page 68 and subsequently went into bradycardia, ventricular fibrillation, and he could not be resuscitated.

Now, once again, Doctor, we have taken a very quick summary trip through the baby's





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course, but I hope a reasonably fair one?

A. Yes.

Q. Can you tell me, Dr. Rowe, what you think to be the significant matters in this chart that we are trying to understand why Jordan Hines died when and in the way that he did?

A. Yes. One of the important things about the history, it seems now, is the fact that he was admitted with an apneic spell to North York Hospital with this brady/tachycardia thing. That episode looks to have been a pretty serious one, if the description from the cardiologist is correct. It didn't sort of fit together in our observations because we didn't find any heart failure at all at that time, at the time we saw him, and he didn't seem to be in clinical heart failure. He did however, and whether this is again another comment that's not recorded on the chart, it may be if there is an emergency room note we may be able to see that, I don't have my pages - I have the pages numbered here but when I'm working through a chart I don't have those beautiful numbers.

Q. What, the admission notes and things like that?

A. Yes.





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Q. There is the history that's taken, Doctor, on page, I think it is 61, which records the history of the present illness and how he presented at North York General. Is that of some help?

A. Well, I think that he is found by his mother in bed, gray/blue in colour, picked up and shaken and choked and picked up immediately. That episode I think in retrospect becomes pretty significant.

Q. What's the significance of that?

A. Because it suggests that this was what we call a "near miss" of the sudden death infant syndrome, that the baby was found by the mother and was in the process of probably dying and was resuscitated by getting him to breath again.

So, I think that's an important thing, the details of which was necessarily picked up right away. I think that the other features were the - the other features which exercised the cardiologist who was seeing this baby was his history of what appeared to be heart failure and pulmonary venous congestion and the brady/tachy problem.







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So that I think their direction more pushed at that time to an infection possibly involving the heart, obviously involving the lung or apparently involving the lung.

I have a note somewhere that there was an atrial arrhythmia in the Emergency Department, but I don't know whether it is in this record. The baby would have presumably come into the Emergency Department and then been transferred to the ward. I don't know whether there is a record of that anywhere in here.

Q. I don't recall seeing it, Doctor.

A. No.

Q. Well, page 58 appears to be the Emergency room record.

A. Yes. Well, that record is written, I'm not sure by whom, but I think the resident physician probably. He noted there that the baby looked vigorous and not sick.

Q. Yes.

A. And the chest x-ray showed the features you have already alluded to, but the electrocardiogram had a variable rate with bradycardia and tachycardia and it doesn't mention anything about





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ectopics, but I had an impression that there was some question of atrial arrhythmia at that point. Now, whether that was from the Fellow or what, I don't know.

That's not critically important, but it does suggest that they were still thinking about the question of arrhythmias.

But Dr. Fowler saw the patient that evening. He didn't make a full report at that time but he did see the baby and discussed the management with the ward staff and he thought that this might be an arrhythmia problem secondary to infection. That's why he advised starting the antibiotic.

I don't think that there was anybody who expected that this baby would die overnight or anything like that. That was not on the cards, according to the descriptions that I see.

Q. The order for the antibiotics, Doctor, is found on page 76. That page number is not very clear but happily the one before it is, and it appears to have been an order written at least by, is it Dr. Mayer, the same resident who apparently saw the child on admission in surgery?

A. Oh, yes, he must have gone down to the Emergency Department then and seen things





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with the Cardiac Fellow.

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Q. I'm sorry, Doctor, I think I lost the thread of your answer. Could you just summarize again for me please what you think is significant in the chart in terms of understanding the death?

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A. Well, I think that the baby had something that happened at home that suggested that the breathing stopped. That I think in later terms was felt to be fairly characteristic of Sudden Infant Death Syndrome Near Miss, it's called. If it hadn't been that the mother hadn't picked the baby up at that time the baby would have died. And then the baby had instability with brady/tachycardias and that became the predominant feature together with some infiltration in the x-ray so that infection was raised as a possible reason for these events and then all that was being done was observational at that point, apart from the treatment of the possibility of an infection, because it wasn't any more clearer than that.

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They had evidence of a normal architectural heart, they had no sign of heart failure, no indication of need for any anticongestive measures and, so, it was an observational issue at that point.





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And then things fell apart in the middle of the night, or 4 o'clock in the morning.

Q. Now, Doctor, in terms of those things which we've said may be of significance, can we deal with them in reverse order. You referred to the possibility of infection, but as I recall the chart, there was no infection was ever established, was there?

A. No, but at the time when the patient was seen, that was a clinical impression which they had to treat.

Q. But in terms of our understanding of the child's death.

A. Now at this stage, yes.

Q. Infection is a non-starter, is it?

A. I think so. I should have mentioned that the brother - the mother had pneumonia six weeks before the delivery of the baby and a brother...

Q. He had a bad cough.

A. ...had a mycoplasma infection of the lung. So that there were reasonable grounds for supposing this might be an infection as it turns out later, but not at the particular time, that was







E10

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excluded.

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Q. I agree, in terms of the  
apprehension of the cause of death at the time,  
the possibility of infection was still alive?

6

A. Very real, yes.

7

8

Q. In terms of our looking at  
the thing, that is not a thing that we apparently  
need to be concerned about.

9

A. No.

10

11

12

Q. The Near Miss Sudden Infant  
Death Syndrome. Is Sudden Infant Death Syndrome  
something that may recur if interrupted once, twice?

13

14

A. Yes. Yes, indeed, there is  
a high risk of that happening.

15

16

Q. Are cardiac arrhythmias  
known to be associated with Sudden Infant Death  
Syndrome?

17

18

A. They are with some.

19

Q. With some?

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A. Yes.

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Q. Is that a common...

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A. I do not know how common that is, but it does occur. It can occur, let us put it that way.

Q. Because on the autopsy report, page 28, at the bottom of page 28, the pathologist reports, does he not:

"At autopsy, the heart looked normal grossly and microscopically. Extra-medullary hematopoiesis ... ", what is that, the manufacture of blood cells, is it not?

A. That is manufacture of red blood cells outside of the --

Q. Outside the bone marrow?

A. -- of the bone marrow, yes.

Q. That was seen in liver, spleen and thymus.

"The lungs showed congestion and edema, and, of interest, fibrous thickening of a pulmonary arterioles suggesting chronic hypoxia."

A. Yes.

Q. "Persistence of brown fat was also seen in the autopsy. The brain showed gliosis in the brainstem, in the region of the dorsal vagal





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"nuclei. This is the finding seen in SIDS. Other findings which support a diagnosis of a missed-SIDS are the persistent extra-medullary hematopoiesis, the persistence of brown fat, and the thickening of the pulmonary arterioles. This pathologic evidence, in conjunction with the clinical history, makes the diagnosis of a missed-SIDS a possibility. However, this does not explain the arrhythmias and further conclusions will have to await examination of the conducting system."

Doctor, that suggests to me, and I ask you if it does not also suggest to you, that in the view of the pathologist, at least, Sudden Infant Death Syndrome still left unexplained the arrhythmias, and he did not seem to regard them as accompanying each other in the normal course?

A. No, he does not from that report.

Q. I take it to that extent there may be a difference of view between you and the pathologist in this case?

A. Well, the pathologist involved







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is one of the world experts in Sudden Infant Death Syndrome. You would have to ask him.

THE COMMISSIONER: I am sorry, what was that?

THE WITNESS: The pathologist involved is one of the world experts in Sudden Infant Death Syndrome.

THE COMMISSIONER: I see.

MR. LAMEK: Q I agree we would have to ask him, but it does not appear from the language he has used, does it, that he regards arrhythmias as being a usual accompaniment of Sudden Infant Death Syndrome?

A. No.

Q Can we look a little more at the course of the child in the Hospital, Doctor, and look at the progress notes beginning at page 66?

A. Yes.

Q The note beginning at the middle of the page, we have already noticed, records him still having apneas with bradycardia and chest X-rays ---

THE COMMISSIONER: What page are we on now, Mr. Lamek?

MR. LAMEK: Page 66, Mr. Commissioner, the beginning of the progress notes. All that appears





F.4

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2

in the corner on my copy is a 6, but the next page is  
clearly marked 67.

3

4

Q. The chest X-ray is being

5

examined by a physician, probably left lower lobe  
pneumonia.

6

7

A. That is a radiologist.

8

Q. He is a radiologist?

9

A. Dr. Moes is a Radiologist.

10

Q. Dr. Moes is a Radiologist,

thank you.

11

Is that an EEG or an ECG that is next?

12

A. I think that is an EEG,

13

electroencephalogram.

14

Q. One small abnormality noted but

15

the suggestion is it is probably not significant.

16

Arterial blood gases reported, feeling reasonably well,

17

does not have a fever. He is lethargic, not moving

18

around very much, he has good tone when he is agitated.

19

He is feeding reasonably well.

20

There does not seem to be any

21

enormous amount to be concerned about from the

22

appearance of the child at that stage, does there?

23

A. No, except that he was still

24

having apnea.

25

Q. Except that he is still having

apnea, that is right.





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Page 67, the 6th of March, he has had his blood work done today, bouts of tachycardia 185 to 150 regular; bradycardia of 50; respiration is recorded at 38 to 66; he tires easily when he feeds. The baby appears tired, sleeping a great deal this afternoon, in no apparent distress, and his colour is slightly cyanotic.

The next day, there do not appear to be any substantial variations in heart rate recorded in this note, 143 to 178 regular is his heart rate from 3:30 in the afternoon to 6:15 in the evening.

A. Yes.

Q. Respiration is 42 to 60; blood pressure is recorded; chest, occasional harsh cough heard, he is congested but he has got air entry throughout; good colour, not very dusky, and he has one episode of vomiting. But we do not seem to have the arrhythmias in the course of that period of time anyway.

Can I reasonably take it, Doctor, from the fact that there is no note between the one at the top of the page for 6.3.81 and the one in the middle of the page for March 7, '81 that there was nothing of any significance to record in that period?

A. I think that must be accepted, yes.





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Q And it would be a reasonable inference, therefore, would it, that during the whole of the day of March 7, certainly until 7:15 in the evening, which is when this note ends, there were no arrhythmias noticed or they would probably have been recorded, would they not?

A. They should have been noted, yes.

Q Page 68, on the 8th of March early in the morning, the very difficult note to read at the top of the page, which is the note of I believe a Registered Nursing Assistant whose name I cannot read:

"(Somebody) Meredith was feeding a baby in Rm. 431. Monitor on Jordan went off and then stopped. I went to get up and check him; at that moment the apnea monitor went off. I went over to the baby and shook him (I think that says). There were no ... "

and I cannot read that word, I am afraid, and I could not read it in the original either.

THE COMMISSIONER: It might be response.

THE WITNESS: Dyspnea, is it? No, I really cannot, but there was no response maybe.







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MR. LAMEK: Q. Response?

A. Yes, response, I think.

Q. I am trying to find another  
"r". In any event:

"MaryJean then came into the room.

I took my baby back to the crib and  
MaryJean started CPR."

Maybe it is response then.

And then the long night nursing note  
for that period really covers the amount of time  
preceding that initially. Cardiac apex taken every  
hour, 160 to 124 and regular. At 4 o'clock in the  
morning, that is 10 minutes before the observation  
recorded above, at 4 o'clock in the morning the apex  
had gone up in rate to 182 but was regular.

What is that, nutrition, was feeding  
well. At 3 o'clock in the morning vomited a small  
amount, alert and active, voiding well, chest slightly  
congested but air entry throughout, slept between  
feedings with no distress. 400 hours again records  
apex at 182 and regular; respiration 54; no noted  
distress. That is 4 o'clock in the morning, and then  
arrested at 4:10.

A. Yes.

Q. I think we can agree without any





F.8

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difficulty there, Doctor, that that arrest was a sudden arrest?

3

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A. Yes.

5

6

Q. Ten minutes before there had been absolutely no indication that that child was at risk of arresting?

7

8

A. That is right.

9

Q. The arrest note is on page 69 of the chart and is a lengthy note.

10

11

12

Interestingly, he says the arrest was called at 4:25, and whether there is anything significant in that apparent 15-minute discrepancy between the two notes, I am not sure.

13

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"Child suddenly developed an 'arrhythmia', no effective output on monitor but no print out. Rhythm appeared like ventricular fibrillation. Very irregular in size and shape. No repetitive nature to the complexes."

19

That, I take it, is the groups of tracings made on an ECG?

20

21

A. Yes.

Q. Child was oxygenated, bagged, is that intubated, ETT?

22

23

A. Yes, endotrachea tube was inserted.

24

25





F.9

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Q. Sodium bicarbonates given.

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A. Yes.

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Q. Rhythm showed no response and became, does that say smaller? It seems to. Do you understand what is meant by rhythm becoming smaller?

6

7

A. No, unless he meant that the amplitude of the complexes became smaller. That is possible, I suppose. Are there any complexes in this record? No, I do not know whether there are or not.

8

9

10

Q. I do not know when that ECG is.

11

The second-last page.

12

13

A. No, that would not be the one. No, I just wondered if there were any attachments from the resuscitation. Sometimes they are put in.

14

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Q. No, I do not think so. But he tries defibrillation with shock, 5 joules, no response; 10 joules, initial response to reasonable narrow complexes at a slow rate. Within a minute increasing ventricular type, is that ectopic beats there?

19

A. I think that is ectopics.

20

Q. Ectopics and reversion to original rhythm, ventricular fibrillation.

21

22

A. Yes.

23

Q. More drugs, no change, no change. Complexes now very small. Adrenalin, shock again,

24

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F.10

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led to slow junctional type beats, and you have  
explained what junctional beats are before, Doctor.

4

A. Yes.

5

6

Q. Recurrence of ventricular  
ectopics and then back to ventricular fibrillation.  
More defibrillation up to 50 joules.

7

A. Yes.

8

9

Q. It sounds like a pretty  
substantial jolt?

10

A. It is a big one.

11

12

13

Q. Junctional type rhythm with a  
rate of about 80 to 100. At least he got some sort  
of rhythm even though it is junctional. But no output  
of, can you read that, Doctor?

14

15

16

A. No output by Doppler. I think  
that is what that is. I am having as much trouble  
as you are.

17

18

Q. That is a device with which you  
detect a pulse, is it not?

19

20

A. Which you hear by an auditory  
signal.

21

22

Q. And some five minutes later  
calcium gluconate, no response; more drugs, no response.  
There is another word that I cannot read.

23

24

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A. Further lidocaine.





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Q. Yes, it is the end of the line  
that I am looking at.

A. Oh, sorry.

Q. Ventricular something.

A. You have got me.

Q. In any event, the message is  
pretty clear, no output, all the drugs, all the shock,  
he can get a small response, pulse audible at times  
but irregular with ventricular ectopics, small dose of  
lidocaine given, no effect. What is the next thing  
that he does?

A. 4 milli equivalents of  
potassium chloride.

Q. Potassium chloride. Given  
slowly IV, and that seems to produce some slow heart  
rate; given Isuprel and adrenalin and atropine with  
some response. Rhythm was again occasional junctional  
in type with very narrow QRS. That is the complex,  
is it?

A. Yes, that is the blurb that  
comes up on the screen.

Q. Followed by beats, large QRS,  
different shapes, multifocal in origin, but some output  
recorded, an infusion of albumin.

A. Yes.





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Q. Blood pressure was recordable  
at 64. Therefore, they stopped the cardiopulmonary  
resuscitation and took arterial blood gases. Is that  
what they were doing?

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Q. Is that what they were doing?

A. Yes, they were doing that, but the question mark I suppose is that they were not sure whether they were arterial or venous.

Q. Or venous, okay. But having got the response that they did, they then say the blood pressure fell over the next 10 minutes in spite of additional isuprel infusion and further - well, dosage anyway, of albumin.

A. Yes, and dopamine. They gave dopamine at the same time.

Q. Yes.

"The pulses became more irregular, output occurring on the more normal complexes only. ...CPR restarted. Child had..." something, "...fixed pupils but moving again during this brief period. Gasping respirations and response to pain. Gradual reversion to very similar pattern to the beginning. Dr. Rose spoken to by the Cardiology Fellow. Only message was to give lidocaine infusion."

I can't read the next one.







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A. "Cardiovascular surgical".

3

Q. "...and ICU Fellow contacted  
because trial of pacing..." is that?

4

5

A. I think it is trial of pacing,  
electrical pacing.

6

7

Q. Yes.

8

"When we had normal conduction we  
had an output."

9

A. Yes.

10

Q. "Child deteriorating quickly.

11

Do transthoracia was used." Or

12

"So transthoracia was used."

13

A. So transthoracic pacing was

14

used.

15

Q. That is a "c" on the end, is  
it?

16

A. I think so.

17

Q. Unhappily they didn't get

18

anything going there either, did they?

19

A. No.

20

Q. "Changed to single large  
transthoracic to right ventricular  
chamber... Capture of mechanical  
contraction by minimal output...

21

22

23

Drugs failed to improve output and

24

25





1  
2 "blood pressure never became readable...  
3 Heart not now beating at all. No  
4 response to adrenalin. Dr. Rose  
5 in attendance. We decided to cease  
6 resuscitation because of the length  
7 of time and lack of response of all  
8 modalities of treatment."

9 I think, Doctor, one could reasonably  
10 describe those resuscitation efforts as heroic  
11 efforts.

12 A. They were.

13 Q. But they were unsuccessful?

14 A. Yes.

15 Q. Dr. Rowe, in your opinion  
16 what was the cause of Jordan Hines' death?

17 A. At the time of the death  
18 and the discussion that followed at the morning  
19 conference we were not sure what the cause of death  
20 was.

21 I think it was considered by  
22 Dr. Vera Rose that this might indeed be a viral  
23 infection affecting heart muscle, and she felt that  
24 the background of the disturbance that was noted  
25 with the same rhythm - well, with the rhythm  
disturbance and so on at North York meant that there





1  
2 was some illness going on in this patient and that  
3 this event that occurred here, although unexpected,  
4 might possibly be explained by further examination  
5 at autopsy.

6 I think it was Dr. Costigan who was  
7 in charge of the resuscitation, and my understanding  
8 from Dr. Vera Rose ---

9 Q. Yes.

10 A. --- was that she felt it  
11 was absolutely critical to obtain an autopsy in the  
12 situation.

13 She felt the most likely issue was  
14 viral and so asked in addition that viral examinations  
15 be done, and she said to me that if she had not been  
16 able to get that autopsy she felt she would report  
17 that situation to the coroner.

18 'But having got the autopsy she felt  
19 that it was reasonable to wait until the autopsy  
20 information was available. She saw the autopsy,  
21 as I understand it, and reported it to us as showing  
22 pallor of the ventricle, and that raised the  
23 possibility of still a myocardial infection, viral  
24 infection, but obviously the thing would depend upon  
25 what was revealed on the histology and so the decision  
was made to await results of the detailed autopsy,







1  
2 the microscopic information on the autopsy, and  
3 that information was some time in coming.

4 In fact Dr. Rose tells me that she  
5 did attempt to find out the results of that several  
6 times but it was not apparently completed during the  
7 time she requested the information. And I am not  
8 sure exactly when that information became available  
9 to her. I think perhaps considerably later.

10 So I don't think at the time of the  
11 death it was sure what the cause was, but it was  
12 regarded by the cardiologist as a death from an  
13 infection, from a viral infection affecting the  
heart.

14 Q . That being the possible  
15 explanation advanced by Dr. Rose?

16 A. That is right.

17 Q. And when the information  
18 finally did become available to her did it confirm  
that suspicion?

19 A. No. The exact time at which  
20 that information became available is a little uncertain,  
21 but she recalls herself that she was shown that for  
22 the first time at the time when she was making a  
23 deposition to the police about the death of the child,  
24 during their investigation. And I think that  
25





1  
2 subsequent examinations of the question by others  
3 concluded that the death was probably Sudden Infant  
4 Death Syndrome and not viral - not myocarditis.

5 Q. Was the death reported to  
6 the coroner?

7 A. No, I don't believe it was  
8 reported to the coroner at that time. I think it  
9 was reported later by the police.

10 Q. Do you recall when it was  
11 reported?

12 A. I don't.

13 Q. When you say "later" are  
14 you talking about days, or a week or what?

15 A. I am not sure how long after  
16 it was.

17 Q. Mr. Scott tells me it was  
18 reported on the 24th of March. Does that assist you  
19 in your recollection?

20 A. Well, I don't have that  
21 detail but I believe at that stage everything got  
22 caught up in the investigation and it just went in  
23 limbo.

24 Q. Was it as a result of this  
25 investigation that the death was reported to the  
coroner?





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A. I don't - of which investigation?

4

Q. The police investigation.

5

A. I think so.

6

7

Q. Had an intention prior to March 21 - had an intention been formed prior to March 21 to report this death to the coroner?

8

9

A. I don't think at that stage. I think that we were waiting or Dr. Rose was waiting on the autopsy information.

10

11

MR. LAMEK: It is time for the morning break?

12

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THE COMMISSIONER: Yes. We will take 15 minutes.

14

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---Short recess.

16

---Upon resuming.

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THE COMMISSIONER: Yes, Mr. Lamek?

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MR. STRATHY: If I could interject before Mr. Lamek proceeds, Mr. Commissioner, I just point out to Mr. Lamek that there doesn't appear to be anything in the chart of Jordan Hines that calls itself a final autopsy report.

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THE COMMISSIONER: No, I noticed that also.

23

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MR. STRATHY: Dr. Rowe has

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2 indicated that either the report shown to him at  
3 some point in the course of the police investigation  
4 or he was apprised of the findings of the final  
5 autopsy, and I gathered from Mr. Lamek that he  
6 does not have in his possession at least anything  
7 that calls itself a final autopsy report.

8 I was just wondering if Mr. Lamek  
9 could help us on that or whether perhaps Counsel  
10 for the Attorney General can help us on that?

11 THE COMMISSIONER: Did you hear  
12 any of that?

13 Well, either you, perhaps, or  
14 Mr. Percival, someone, the police's name has been  
15 mentioned in connection with either the final  
16 autopsy report or anyway something giving further  
17 details from the preliminary death report on Jordan  
18 Hines and we don't seem to have it in the medical  
19 records. Could you undertake - what about that,  
20 Mr. Percival?

21 MR. HUNT: Perhaps we could look  
22 into it.

23 MR. PERCIVAL: I will make enquiries,  
24 but I am satisfied that Mr. Lamek and his very  
25 competent staff has drained every possible piece of  
paper ---







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THE COMMISSIONER: That you ever  
had, yes.

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MR. LAMEK: Mr. Commissioner, I  
was rather hoping Dr. Rowe might help us with that  
because I checked the original record, and this is  
not a failure of copying. There is no final autopsy  
report in the original Hospital record as I  
received it.

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THE COMMISSIONER: No. Well, we  
can, of course, always go to the original source ---

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MR. LAMEK: The pathologist.

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THE COMMISSIONER: Whoever did the  
preliminary also does the final, am I not right on  
that? Is that not right, Dr. Rowe?

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THE WITNESS: Yes, it is.

THE COMMISSIONER: So that obviously  
they would have a record somewhere, would they not?

THE WITNESS: I would think so.

THE COMMISSIONER: Would they not?

THE WITNESS: I would think so,  
yes, Mr. Commissioner.

MR. LAMEK: Q. Would that be  
Dr. Becker?

A. Yes.

Q. Have you ever seen a final





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autopsy report on Jordan Hines, Dr. Rowe?

A. I am really not sure. No, I don't know. I take it the one is here is the preliminary.

Q. It is so entitled on the first page.

A. Yes.

Q. And indeed it clearly contemplates that there will be a further report. I want to refer to that in a moment or two.

What was the nature of the information that Dr. Rose eventually received back on the enquiry as to viral infection? Was that in the form of a written report?

A. I think that - no, I think she said she didn't get any information on that. The first information she got was at the time of the deposition, the statement about the patient to the police.

Q. Yes.

A. And I think they showed, as I understand it they showed her a copy of an autopsy report. I don't know whether it was a final or a preliminary.

Q. Can you help me, Doctor,





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is it your recollection that the ---

THE COMMISSIONER: Are you leaving  
the subject?

MR. LAMEK: Of the final autopsy  
report?

THE COMMISSIONER: Yes.

MR. LAMEK: Not entirely.

THE COMMISSIONER: No. Just so  
that we don't forget it. At some point we will  
track it down.

MR. LAMEK: I will do my best,  
Mr. Commissioner. I am interested in seeing it as  
well.

THE COMMISSIONER: Yes. All right.

MR. LAMEK: Q. If Dr. Rose  
received information about there being no viral  
infection via the police which I think is what you  
told me your recollection is - did you say that?

A. I think that is what she told  
me, yes.

Q. I would take it from that  
that she did not obtain information until some time  
after March 21st.

A. Yes. I think that would be  
so.







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Q. Because the police were not involved prior to March 21st, were they?

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A. No.

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Q. Well, we will just have to make enquiry about that because there is other information that I need to track down that suggests the information was available earlier than that but it needs to be followed up, Dr. Rowe, and we will do that.

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A. Very well.

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THE COMMISSIONER: It is just possible, of course, that Mr. Tobias might be able to help us, I don't know?

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MR. LAMEK: I'm sorry, Mr. Commissioner?

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THE COMMISSIONER: Did Mr. Tobias get all of this?

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MR. LAMEK: I don't know whether Mr. Tobias has a copy of the final autopsy report.

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MR. TOBIAS: No, Mr. Commissioner, I don't have a copy of the final autopsy report.

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THE COMMISSIONER: And you never did I take it?

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MR. TOBIAS: No, I never had it.

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THE COMMISSIONER: Well, there we are.





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MR. LAMEK: Perhaps Mr. Tobias  
could let us know if he asked for one.

THE COMMISSIONER: Well, I take it  
there is some point - Mr. Tobias, you got all the  
medical records, did you, of that child?

MR. TOBIAS: Yes, that is correct.  
They were supplied to us by the Medical Records of  
the Hospital.

THE COMMISSIONER: But there never  
was a final autopsy report that you ---

MR. TOBIAS: Not in that bundle  
of documents that was produced for me.

THE COMMISSIONER: All right.

MR. LAMEK: Q. May we for lack of  
a final autopsy report then go back to the preliminary  
report, please, Doctor, page 28?

First, and it is a small thing,  
the time of death is recorded at the top of page 28  
as 4:45 in the morning.

A. Yes.

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Q. Now, Doctor, we've seen from the nurse's note and from the arrest note that there may be some small discrepancy there. Nurse Reaper, on page 68, records the arrest as having occurred at 4:10 and Dr. Costigan in his arrest note says the arrest was called at 4:35. It would seem to me that even if Nurse Reaper is right about the time of arrest and called for help, the efforts that we have seen recorded on those two pages would almost certainly have taken more than 35 minutes, would they not?

A. I would have thought so.

Q. Yes. And I'm puzzled therefore as to the source of the information that the pathologist had in enabling him to say that time of death was 4:45 in the morning. I would have thought, just from reading the efforts of the resuscitation team, that it would have been quite substantially after that. Would you not have thought so?

A. It's a very detailed note. I wouldn't be prepared to say the duration of the time, that necessarily the length of the note relates to the time of the resuscitation, it may relate to the anxiety of the cause of the arrest and so on.

Q. Yes, but doesn't the content of the note suggest a long effort?





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A. It does suggest that.

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Q. There were periods when they

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were getting some response and that would surely

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encourage them to renew or extend their efforts,

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would it not?

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A. Yes.

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Q. So, I suppose there must be

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some question as to the 4:45 a.m. time stated on the

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preliminary autopsy report.

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Are you aware of any other information

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upon which the pathologist might have relied on in

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stating the time of death?

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A. No.

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Q. Again, Doctor, I ask you to look

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at the bottom of the first page of the preliminary  
report where the pathologist, having recited certain  
findings, says:

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"This pathologic evidence, in

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conjunction with the clinical history,

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makes the diagnosis of a missed SIDS

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a possibility, however, this does not

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explain the arrhythmias and further

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conclusions will have to await

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examination of the conducting system."

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Now, that clearly contemplates, does

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it not, some further postmortem examination?

Mr. Ortved may solve the mystery for you. He's got a document called "Final Autopsy Report".

MR. ORTVED: Mr. Commissioner, I have checked and found a copy of what purports to be a "Final Autopsy Report" in relation to Jordan Hines which, on a brief review, would appear to be precisely the same as the preliminary autopsy report with simply the word "final" over the word "preliminary".

MR. LAMEK: Very grateful to Mr. Ortved. Now, I will have copies of that made over the course of the lunch break, Mr. Commissioner.

Q. Dr. Rowe, I tell you that the sentence that I have just read to you from the preliminary report, that is to say:

"... diagnosis of missed SIDS being a possibility, however, this does not explain the arrhythmias and further conclusions would have to await examination of the conducting system.", appears in what is called a final report as well. But that does appear to contemplate further investigation, does it not?

A. Yes.

Q. Do you know whether there was





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an examination of the conducting system of the heart  
of Jordan Hines?

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A. I don't know.

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THE COMMISSIONER: Why would they say  
"missed SIDS"? Why would they use the term "missed"?  
I would understand that in the first instance when  
the mother picked up the child. Why would they call  
it a missed Sudden Infant Death Syndrome, I would  
have thought it would just be Sudden Infant Death  
Syndrome.

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THE WITNESS: I would draw the same  
conclusion, Mr. Commissioner. I don't understand why  
it's called missed, except I suppose that from the  
pathologist's standpoint -- I don't know, I don't  
really know the answer to that. I think you would  
have to ask Dr. Becker.

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MR. LAMEK: Q. Dr. Rowe, do we come  
to this as far as trying to establish a cause of  
death is concerned from these documents in this chart,  
that in the opinion of the pathologist, whom you have  
said to be one of the world's great experts on this  
Sudden Infant Death Syndrom ---

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A. On the pathology of Sudden Infant  
Death Syndrome.

Q. The pathology of Sudden Infant  
Death Syndrome ---





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MR. PERCIVAL: I'm sorry, is that  
Dr. Sugar or Dr. Becker? One is signed and one isn't  
and I was just wondering to whom the doctor is  
referring?

THE COMMISSIONER: Who is the doctor?

THE WITNESS: The authority is  
Dr. Becker.

MR. LAMEK: Q Dr. Rowe, do we not  
come to this ---

MR. SCOTT: Somebody should stand up  
for the other doctor.

MR. LAMEK: Well, would he mind  
standing up now before I start this question again.

MR. SCOTT: No, no, no.

MR. LAMEK: Q Doctor, does it come  
to this, that in the opinion of the pathologist, with  
the expertise that you have told us about, the  
diagnosis of Sudden Infant Death Syndrome, is not one  
that he is prepared to accept without looking further  
for a cause of the arrhythmias and that he expected to  
find upon an examination of the conducting system? Do  
I understand his position?

A I can't be sure what his thoughts  
were.

Q Does that appear to be what  
emerges from this?







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A. I suppose you could argue that,  
yes. I don't really think that I can conclude what  
he thought.

Q. No, but you can read what he  
said.

A. Yes.

Q. Is that your understanding of  
what he said?

A. Yes.

Q. And unfortunately, we do not  
seem to have the results of any further examination  
that may have been made of the conducting system?

A. No.

Q. Is that so?

A. We do not have that.

Q. And if that be so, we have a  
pathologist who appears, does he not, to be uncertain  
as to the cause of this child's death?

A. Yes.

Q. We have Dr. Rose who had a  
theory as to the cause of death, which she advanced  
and was investigated and which was proved not to be  
correct?

A. That's correct.

Q. The viral infection.





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A. Yes.

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Q. I asked you, Doctor, before we broke for the mid-morning recess, what your opinion as to the cause of death of Jordan Hines was and you are properly careful to say "at that time", and clarified the point of time that I was directing you to and at that time, let me be clear, what was your opinion as to the cause of death?

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A. You are talking now about which time, Mr. Lamek?

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Q. I'm talking now about March of 1981, before the end of March, 1981.

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A. Yes. I don't think we knew what the cause of death was at that time.

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Q. Why then was this death not reported to the Coroner before the Police investigation started?

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A. I think that's a reasonable request and I think that we have asked Dr. Vera Rose about that very point and her response was that she felt that the autopsy should be able to answer the question and she thought it was not unreasonable to await the result of the histology, and I think that's the reason that the patient's death was not reported to the Coroner.





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It did appear to all of us that the episodes that occurred prior to the admission to the Hospital were serious indeed and, so, we didn't have any reason to believe this was anything other than an illness and that was the conclusion that was reached.

Now, I think one can argue that point, but I believe that that was the basis upon which the decision was made not to report it.

Q. Doctor, as we have seen so often before, the preliminary autopsy report does not bear a date. Do you have any recollection as to when it was received by the cardiologists?

THE COMMISSIONER: It does bear a date but it is the wrong date.

MR. LAMEK: It is the date of the autopsy, not the date of the report, as I understand it, Mr. Commissioner.

THE COMMISSIONER: Yes.

THE WITNESS: No, I don't know when it was received because I have asked the people involved, the responsible, the cardiologist who was on duty at the time of death didn't see the report until much later. The cardiologist who was the ward chief of the month didn't receive it by the 17th of





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March anyway because he has a letter to the family doctor in which he refers to that. I think that is on page 1. So, he hadn't got it by that time and I think that after that time, perhaps the events of March overtook the situation.

Q. Well, let's look at that letter of the 1st on page 1, the letter of the 17th of March, Dr. Rowe. Do you read that as indicating that as of March 17, Dr. Fowler, who is the attending doctor, had not seen the preliminary autopsy report?

A. It looks that way, but I don't know whether that's so or not.

Q. Well, how would he know about a fresh hemorrhage around the base of the brain and the brain being cut in the near future. Does that suggest that this letter was written between preliminary and final reports?

A. I can't tell that. I don't know what he means by that. Dr. Rose I know saw the heart the next morning.

Q. Yes.

A. And described to us the fact that that was the appearance of the ventricle and so on. That would not seem to me to be the letter from somebody who had a copy of a preliminary autopsy report.







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Q. Certainly it seems to be the letter of someone who has information from autopsy, would it not?

A. Yes. Well, I think he says that he discussed the case with the pathologist.

Q. Yes. The final autopsy report, which has just been produced to me by Mr. Ortved. Let me show that to you, Dr. Rowe.

THE COMMISSIONER: Could we make it Exhibit 103-A?

MR. LAMEK: As long as I can retrieve it and have it copied, Mr. Commissioner.

THE COMMISSIONER: Oh, yes, yes. That will be 103-A.

--- EXHIBIT NO. 103-A: Final Autopsy Report  
of Jordan Hines.

MR. LAMEK: Q. That at least on the second page, Dr. Rowe, under the typist's initials, has a manuscript date which is 25/3/81. Does that assist your recollection as to when this report was received?

A. No.

Q. Have you seen before manuscript dates on reports from the Pathology Department?

A. I don't think so.





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--- Off the record discussion between Mr. Lamek  
and Mr. Scott.

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THE COMMISSIONER: I don't know  
whether we should have a translation of that private  
inquiry that you and Mr. Scott had.

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MR. LAMEK: We were defining  
manuscript.

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THE COMMISSIONER: Fine, all right.

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MR. SCOTT: There is a handwritten date  
below the typewritten. Manuscript means something  
else to me, but it is simply a handwritten date  
numerically below the typist's initials. That doesn't  
appear on any of the other reports. That may be the  
date it was either dictated or typed. I have under-  
taken to Mr. Lamek to see if I can make some inquiries  
about whether anything is known about that.

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MR. LAMEK: Thank you.

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THE COMMISSIONER: I don't know that  
it is anything to do with my Terms of Reference, but  
why are they not dated, some date given? In the  
legal world we live on dates. In the medical world  
it doesn't seem to be quite so important, but it has  
obviously turned out to be important here. Do you  
know anything of why that is?

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THE WITNESS: I don't know what the  
reason is. I suspect that you will find from now on





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there will be dates on all autopsy reports,

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Mr. Commissioner.

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MR. SCOTT: I don't want to rob the  
Commissioner of the recommendation.

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MR. LAMEK: Q. Dr. Rowe, you have now  
told me, prior to the end of March, what views  
you had prior to the end of March as to the cause of  
Jordan Hines' death. Did your views as to the cause  
of that death change after the end of March?

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A. After the end of March the  
only additional comment I would have on that is that  
when Dr. Harry Bain reviewed these deaths in great  
detail I was obviously influenced by his great  
experience and expertise in this area and he seemed  
to feel satisfied that the clinical history and the  
course was entirely consistent with that ...

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Q. I'm sorry, with what?

A. Entirely consistent with that

mode of dying, that it was indeed Sudden Infant Death  
Syndrome.

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Q. Now, Doctor, I don't know if  
you have Dr. Bain's report with you?

A. No.

Q. Beginning on page 17 he refers  
to Jordan Hines, does he not?







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A. Yes.

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Q. Interestingly he gives the time

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of death of the baby as 2:45 in the morning. There

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seems to be a measure of uncertainty about just when

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Jordan Hines died, isn't there?

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A. Yes.

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Q. Have you read Dr. Bain's report

on Jordan Hines?

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A. Some time ago; I haven't read

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it recently.

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Q. Now, there is one thing that we have not had any reference to yet, but it is included in Dr. Bain's comment in the summary, the final sentence:

"He was not on digoxin but apparently digoxin was found in his body."

THE COMMISSIONER: Sorry, I have not found that yet.

MR. LAMEK: It is on page 17, Mr. Commissioner. There is a line across the middle of the page.

THE COMMISSIONER: Oh yes, I see, all right.

MR. LAMEK: The sentence immediately before that.

THE COMMISSIONER: Yes, thank you.

MR. LAMEK: Q. Now, can we turn to that subject for a moment, Dr. Rowe. Digoxin had not been prescribed for Jordan Hines, had it?

A. No, it had not.

Q. Certainly not at the Hospital for Sick Children and to your knowledge, I take it, not anywhere else either?

A. I do not believe he was ordered any digoxin.





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Q. Now, are you aware, and Dr. Bain has referred to this in the sentence that I just read, are you now aware that tissue samples from organs taken at autopsy on Jordan Hines and preserved in fixative solutions were assayed for digoxin at the Centre of Forensic Sciences and produced apparently positive results for digoxin?

A. Yes.

Q. When did you become aware of that?

A. I am not sure exactly when I became aware. It was, I think, after the hearing or am I not sure. It was much later.

MR. SCOTT: I am sorry, Mr. Commissioner, can my friend help us by telling us the date those assays were done? That might help us to put it together, if he knows.

MR. LAMEK: Yes, we marked as an exhibit yesterday, Mr. Commissioner, the ---

MR. SCOTT: I am sorry, then I should have found it myself.

THE COMMISSIONER: That is Exhibit ---

MR. LAMEK: The beginning of page 6 of the first report, the long one.

MS. CRONK: 95, Mr. Commissioner.











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THE COMMISSIONER: 95A.

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MR. LAMEK: 95A, yes, on page 6  
and continuing to page 7; in the second report,  
part B of that exhibit on page 1, two further  
samples in that case from tissue that had been  
exhumed; in the third report, part C of the exhibit  
on page 1 of that report, and that I think completes  
the references to samples from Baby Hines.

Q.

Now, I do not know with  
what particularity you had an awareness of the  
digoxin assays that had been carried out on  
particular tissues and fluids reported to be from  
Jordan Hines' body, Dr. Rowe. Would it be of any  
assistance to you at all if I referred you to the  
particulars of those things or did your knowledge  
not go to the particularity?

A.

My knowledge did not go that  
far.

Q.

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Did your knowledge go any  
further than this, that postmortem samples and in  
some cases samples of tissue obtained after exhumation  
had been assayed for digoxin at the Centre  
of Forensic Sciences and had apparently produced  
positive readings?

A.

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Yes, eventually I found that





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out and I am not sure exactly when.

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Q. I think you suggested that your recollection was that it was after or at the end of the Preliminary Inquiry in the Susan Nelles' case?

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A. I think so, but I do not remember.

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Q. When you became aware of that information, what was your reaction or response to it?

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A. Well, it was surprise and subsequently I have recognized that that is a fact that has been available. I am not in a position to make comment on it because I am not an expert in that area.. But I accept the fact that there has been a report saying it.

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Q. You cannot tell us how you responded to it. What did you do having been surprised by the information?

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A. I did not do anything.

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Q. Did you make any enquiry of any pathologist or pharmacologist as to the significance of the reports that you had heard?

A. Well, we did not know what they meant, at least I did not know what they meant. It is not my field of expertise and I assumed that





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2 that whole area of tissue examination was undergoing  
3 an examination by very many people and I thought  
4 that that would eventually be resolved as to what  
5 it all meant later on.

6 Q. Doctor, I do not intend to  
7 be facetious, but were you prepared simply to wait  
8 until the right people had the answers and the  
9 explanations?

10 A. Yes, because I understood  
11 this was an ongoing investigation.

12 Q. And you initiated no enquiries  
13 of your own towards people who might be better  
14 informed on the subject than you?

15 A. Well, we talked to the  
16 pharmacologists and so on, but we did not -- I do  
17 not think all the information was through at that  
18 stage anyway.

19 Q. Did you wonder how Jordan  
20 Hines' tissues could have had digoxin in them?

21 A. Yes.

22 Q. Did you formulate any  
23 possible answers to that question?

24 A. No, I did not have any.

25 Q. Did the information that  
you obtained cause you to reconsider this case,







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and in particular, to reconsider the question of  
the cause of this child's death?

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A. We did not make any formal  
examination of that, Mr. Lamek.

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Q. No, did it cause you,  
Dr. Rowe, to think either in the quietness of your  
own room or in the quietness of your own mind  
whether this piece of information which had now come  
to you could explain the death of this child?

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A. Yes.

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Q. And that question, having  
raised itself in your mind, did you come to any  
conclusion or did you lean in any direction in  
respect of the question?

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A. Well, obviously it was a  
matter of concern that this might be important. I  
thought at that stage that it was too early in the  
complete investigation of digoxin and tissues to be  
certain. There had been enough questions raised  
about the interpretations of digoxin in tissue that  
it seemed to me we could not make a decision, at  
least I could not make a decision, obviously.

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Q. Doctor, there have been all  
sorts of questions raised, you are quite right, about  
the interpretation of digoxin levels. Had you, at





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3 any time, heard it suggested that there may be some  
4 ambivalence about the mere presence of digoxin in  
5 a child for whom the drug had not been prescribed?

6 A. We had seen some literature  
7 on production of digoxin-like substances I believe  
8 in patients who had been exhumed. I think that there  
9 was some question as to whether material like  
10 digoxin might be generated by bacteria after death  
11 or something of that sort.

12 Q. Can you recall what the  
13 literature was and when you saw it?

14 A. I think I could probably  
15 find the paper, and I cannot remember when it was  
16 but it was during the development of all these  
17 questions that had arisen about digoxin.

18 Q. Certainly if you can find  
19 the paper it will help us put a not before date on  
20 it, will it not?

21 A. Yes.

22 Q. I wonder if you would be  
23 good enough to let Mr. Ortved have that so that he  
24 may let me see it?

25 A. I will.

Q. Thank you. I take it when  
the information as to the sampling and assays that





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had been done at the Centre of Forensic Sciences,  
when that information became available, it became  
available not just to you but to other cardiologists  
at the Hospital?

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A. It was not directly sent to  
me.

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Q. No, but they were aware of it  
as you were aware of it, I take it?

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A. Yes.  
Q. Do you recall any discussion  
with any other staff cardiologist or Cardiology Fellow  
as to the significance of that information as it  
might go to the explanation of the death of Jordan  
Hines?

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A. I do not remember specific  
conversations. We talked about these patients from  
time to time as new information emerged about  
various things that related to the investigation,  
but again, I think that we were sitting there  
waiting for this information to gel in some way  
that would allow some conclusions to be made.

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I do not think that we were trying  
to take each death and look at it in a way that was  
already being done in considerable detail by the  
police and others and expect that we, as non-experts,





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could come up with an answer to those sorts of questions.

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Q. Well, Doctor, two things about that, if I may.

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First, I do not suggest that you were doing that on a death by death basis. But Jordan Hines was a death, was it not, about which there was a considerable measure of puzzlement?

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A. Yes.

Q. You had never really been totally satisfied as to what caused Jordan Hines' death; is that fair?

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A. I think we ultimately thought it was Sudden Infant Death because of the changes that were described and because of Dr. Bain's impression about it.

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Q. And notwithstanding the pathologist, that seemed to be the most likely candidate, did it not?

19

20

21

22

23

A. Yes, that is what we thought.

Q. But this was a death about which, forgive me, there was more of a question mark than almost any of the others that we have talked about so far, was it not?

24

25

A. Yes, certainly.







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Q. And when, in this very baby, you are informed digoxin has apparently been found, without going on a death by death trip through the whole nine months, did it not occur to you to wonder whether this might be the answer to the puzzle and the question mark that you had had?

A. I think that is very definitely so.

Q. Was there any discussion of that?

A. Yes, I think that the people who were concerned when they heard that said well, you know, what does that mean; it may be related.

Q. Did the information and your consideration of it afterwards cause you to change your mind as to the probable cause of death of Jordan Hines?

A. I still was unsure about what the results might mean in terms of the digoxin, and I think there is no question that digoxin entered into the consideration at that stage.

Q. Dr. Rowe, do you know whether any attempt was made in the Biochemistry Department at the Hospital to assay postmortem tissue from this baby for digoxin?





1

2

A. I do not know.

3

Q. Did you ever make any

4

enquiry about that?

5

A. No.

6

Q. Will you excuse me for just

7

a moment, Doctor?

8

Doctor, you have told me that of

9

course it occurred to you to wonder how Jordan Hines  
could have come to have in his body and body tissues  
digoxin which had never been prescribed for him.

10

11

Forgive me, I do not think I asked you this.

12

Did you formulate any hypothesis

13

as to how that might have happened?

14

A. Well, he might have got

15

an accidental, an error dose of digoxin instead of  
somebody else. That is one possibility, I think.

16

Q. Did any other possibility

17

occur to you?

18

A. That was the only one that

19

occurred to me at that time, but then the question

20

of course after the end of March was whether or not  
there had been an intentional overdose.

21

Q. But it was after the end

22

of March, 1981, indeed after May 1982 that you

23

acquired this information at all as to the presence

24

25





1

2

of digoxin in that child's body, was it not?

3

A. Yes, but what I mean is

4

that the events of March 1981 and what that led

5

to raised the question later on about whether there

6

might be something, not that I made the decision in

7

March of 1981.

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EMT.jc  
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Q. So in canvassing in your own mind how this digoxin could have come into his body, I take it you had to contemplate either accidentally by misadministration of someone else's dose or intentionally?

A. Yes.

Q. Either was a possibility, I take it?

A. Yes.

Q. Now can we move to the next case then.

Doctor, I am going to make the diagram that we have up there really do double duty. I am going to go straight to Pacsai so we don't have to change the board.

Doctor, Kevin Pacsai was born February 15th, 1981. He was admitted to the Hospital for Sick Children on March 11, 1981, and he died the following morning on March 12th, 1981 in the ICU to which he had very recently been transferred from Ward 4B?

A. Yes.

Q. And I take it in light of what you have already told us about the heart that is depicted on the diagram behind you that we don't need





J.2

1

2

to ask you again to describe the anatomy of this  
child's heart?

3

4

A. Yes.

5

Q. It was apparently a normally  
constructed heart?

6

7

A. That is correct.

8

Q. He had come to the Hospital  
from the McMaster Medical Centre, had he not?

9

A. He had.

10

Q. And he had been referred there  
from St. Joseph's Hospital in Hamilton?

11

12

A. Yes.

13

Q. And the discharge report is at  
page 101 of the chart and provides I think a summary  
of his course. Two weeks of age.

14

15

Apparently suffered some arrhythmia  
with supraventricular tachycardia and shock.

16

17

He was resuscitated, digoxin and  
propranolol prescribed and administered. The child  
returned to being stable, in sinus rhythm, with  
normal cardiac function.

18

19

20

21

"However, he was subsequently noted  
to be bradycardic with 2:1 heart  
block."

22

23

A 2:1 heart block is where the atria are beating at  
twice the rate of the ventricle?

24

25





J.3

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A. Yes, that is correct.

Q. And does that suggest some dysfunction of the conduction system?

A. Yes, it does.

Q. And the digoxin level at that time was 1.8 nanograms per millilitre.

Do you know why that digoxin level was reported at that particular point in this chart, Doctor?

A. I think because they were concerned in Hamilton about the block, the low rate, I think they then felt they should have a digoxin level. They wondered presumably whether the treatment had caused the block.

Q. Because indeed not only is arrhythmia but so also is AV block a symptom of digoxin toxicity, is it not?

A. Yes, it is.

Q. The level apparently was not such as to lead one to think that it might have had anything to do with the block or the arrhythmia; is that fair?

A. I think that is fair.

Q. "While in hospital in Hamilton the child was noted to be hyperkalemic ... ",





J.4

1

2

that means potassium is --

3

4

A. His potassium was high. Level of potassium in the blood was high.

5

6

Q. At that time pH was 6.79. I can never remember which way pH goes, Doctor. Does that mean he is acidotic?

7

8

A. He was very acidotic. He was very acidotic. That is an alarming acidotic level.

9

10

11

Q. They managed to neutralize that and the potassium corrected to normal levels between 3 and 4.

12

13

The potassium was recorded at 5.8 on the day of his transfer to the Hospital for Sick Children.

14

15

16

For what reason was he sent to Sick Children? Because of the arrhythmia and the heart block?

17

18

19

20

21

22

23

24

25

A. I think because he had supra-ventricular tachycardia as the onset of his illness as they thought, and that he was developing this heart block which they couldn't relate to the digoxin I suppose. I would think that is the way the thinking would go, and that they therefore felt maybe there was something more than a simple supraventricular tachycardia problem and that it might be important to







J.5

1

2

get that resolved with more detailed investigations.

3

4

Q Can there be congenital  
dysfunction of this conduction system?

5

A Yes, it may be.

6

7

8

9

Q It is recorded when he got to  
the hospital here he was active and alert, pulse 120,  
respiration 160. Head, ears, nose, throat, chest  
clear. No murmurs heard. But his liver is enlarged  
apparently.

10

11

What does that indicate with no other  
anomalies?

12

13

14

15

A Yes, well, in some newborns you  
can - the upper limit of normal is between 2 and 3  
and it might have been regarded as that. I am not  
sure whether there is any concern about any other  
issue mentioned in the text on that.

16

17

18

Q The child indeed at the time  
of admission appears to have been remarkably normal,  
does he not?

19

A Yes.

20

21

22

Q Chest X-ray and ECG, electrolytes  
on admission ... everything looks terrific. But then  
that evening he becomes bradycardic and has a 2:1  
and 3:1 atrioventricular block.

23

24

25

A 3:1 atrioventricular block is the





J.6

1

2

same thing, the atria beating at three times the rate  
of the ventricle?

3

4

A. Yes, and would probably  
presumably mean the rate was a bit slower at the  
ventricular level. I don't know, without seeing the  
record it is hard to tell.

5

6

7

Q. And he was sent to the ICU?

8

A. Yes.

9

Q. When he gets there they find  
that he is back in sinus rhythm but he has a very  
high potassium at that stage, does he not?

11

12

A. He does indeed.

13

14

Q. Indeed a 6.79 you described  
as extremely high and I take it 9 is horrendous, is it?

15

A. No. Well, we are talking about  
two different things here.

16

Q. Oh, are we?

17

A. pH was 6.79.

18

Q. Yes.

19

A. But the potassium should be  
between 3 and 4 milliequivalents per litre.

20

Q. Sorry?

21

A. And it went - 9, as you say,  
is very high.

22

23

Q. There was a repeat on that, and

24

25



1  
2 that apparently was 7.7. Still I take it worrisomely  
3 high?

4 A. Yes.

5 Q. What is the significance of  
6 high potassium?

7 A. Well, there are a number of  
8 different causes for it. Usually it is some - if it  
9 is not related to actual administration of potassium  
10 it is because of some disturbance of function; it is  
11 particularly seen in patients who have adrenal -  
hypofunction of the adrenal glands.

12 Q. Yes.

13 A. But there are a number of  
14 different reasons of why it might be, and they would  
15 probably be addressing that there, although they are  
16 getting on with trying to bring it down whatever the  
cause might be.

17 Q. However it occurs, Doctor, what  
18 is the significance in terms of possible consequences  
19 of an elevated potassium level?

20 A. Well, a high potassium level  
21 can interfere with the function of the heart very  
considerably.

22 Q. Can you help me, Doctor, how  
23 high is high? At what levels would you anticipate  
24  
25







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Rowe, dr.ex.  
(Lamek)

2913









J.8

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2

there may be some interference with heart function?

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A. Well, I think that the levels

that are mentioned there would be of the type that might be sufficient to do that. I don't know that I can give you an absolute level. You might have to ask --

Q. Is there a generally accepted range of levels at which one might expect it to interfere with heart function?

A. I think once you get above about 6 or 7 I think the electrocardiogram changes, and you can go at any time into problems I think after that level. But it varies from patient to patient.

Q. Yes.

A. I think the people who could tell you most about that are the people who are involved in renal function and problems of that sort. We don't see that very often. We tend to see the problem of too low potassium in cardiology.

Q. Yes.

A. It is unusual for us to see high potassium.

Q. Other than interference with heart function which goodness knows is a serious enough consequence, are there any other unpleasant or





J.9

1

2

toxic consequences of high potassium levels?

3

A. No, that is the main one.

4

Q. I take it potassium is a

5

substance that is produced naturally in the body?

6

A. Yes.

7

Q. And may be administered to the

body?

8

A. And may be administered.

9

Q. After the increased levels of

10

potassium are recorded, the baby is given an infusion

11

of 20% glucose bicarbonate and a Kayexalate enema in

12

attempts to reduce the potassium level.

13

Also the child is given an injection

14

of atropine in an attempt to improve the 2:1 AV block

and the baby goes back to sinus rhythm.

15

About an hour later he develops

16

ventricular fibrillation. There is a resuscitation

17

effort including the insertion of a transthoracic

18

ventricular pacemaker wire. The effort is unsuccessful

19

and the child dies on the morning of March 12th, 1981.

20

A. Yes.

21

Q. Doctor, as at March, 1981,

22

before the end of that month, did you have an opinion

as to the cause of Kevin Pacsai's death?

23

A. No, we didn't have - at least

24

25







J.10

1

2

I didn't have a good idea of why he died.

3

4

Q. At any time since the end of March have you formed an opinion as to the cause of Kevin Pacsai's death?

5

6

A. Well, the most plausible account that I have again is one from Dr. Bain.

7

8

Q. Yes.

9

10

11

12

13

A. Now Dr. Bain as you know is a physician of an immense experience and background, and he reviewed the history from the point of view of diagnosis, and most of us have been puzzled, and I believe that he concluded that this was likely due to a functional disturbance of the adrenal gland producing hypofunction.

14

15

Q. Yes.

16

17

A. Something that I have never seen in my life but I wouldn't have expected to have seen because it is not a very common condition.

18

19

Q. And that he thought could well be the cause of the elevated potassium?

20

21

A. Yes.

22

23

Q. And is it your understanding that Dr. Bain really regards the elevated potassium - what is the right way of putting this? - as a significant factor in this death?

24

25





J.11

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2

A. In that diagnosis, yes.

3

Q. And then it becomes a question

4

of finding out how the potassium got elevated?

5

A. Yes.

6

Q. And that is the adrenal

insufficiency?

7

A. Yes.

8

Q. I want to come back to that in

9

a moment then.

10

Do I take it what you are saying to

11

me, Doctor, is that if that is Dr. Bain's opinion on

12

a review of this chart, then lacking a better or more

13

persuasive explanation of your own you are prepared

to bow to that view?

14

A. We knew of other things that

15

had been obtained in an earlier stage.

16

Q. Yes. What other things?

17

A. The question of the digoxin level.

18

Q. Okay. At what stage did you

19

know about the digoxin level?

20

A. I believe that we reported this

case to the Crown on the day the baby died.

21

Q. Yes.

22

A. And the digoxin level became -

23

came to our attention as some days later. I think -

24

25





J.12

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I am trying to see what day it was. I think we learned of the digoxin level on a Wednesday following his death. Now I can't remember what that date was.

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Q. Well, page 83, Dr. Rowe, is a biochemistry report dated March 14, '81 recording a digoxin level in a sample from March 12 as being greater than 10 nanograms. Is that the first information that you have?

A. I can't recall. The information that I received was in the subsequent week from Dr. Costigan and Dr. Carver and I presume that may have been another level.

Q. Yes, I think it probably was.

A. Yes.

Q. Let me just follow the child's course for a moment before we come to a closer analysis of those things, Doctor.

A. Yes.

Q. The autopsy report is at page 94 of the chart and, once again, it is called Preliminary Autopsy Report. Was there a final autopsy report here, Doctor? If there was, I haven't seen it.

A. I don't know whether there is. I can't see one.

Q. No. Maybe Mr. Ortved can do his "rabbit out of a hat trick" again for us.

When did you first see the Preliminary







1

2

autopsy report?

3

A. I'm not sure when I saw that.

4

I don't think I would have seen that until very much  
5 later.

5

6

Q. Until very much later?

7

A. Yes.

8

Q. Is there a normal period of

9

time which one expects to see the preliminary  
autopsy report, Dr. Rowe?

10

A. Yes, there is.

11

Q. And how long does it

12

normally take to get it back?

13

A. A relatively short time,

14

a week or so at the most.

15

Q. The autopsy was apparently

16

performed March 13, 1981?

17

A. Yes.

18

Q. And the prime finding or

19

prime findings, as I understand it, are those

20

written at the top of these things; not necessarily  
a cause of death, although, they sometimes may be.

21

The pathologist here has reported "digitalis toxicity  
22 heart failure".

22

A. Yes.

23

Q. Had you received a prior

24

25





1

2

report from Dr. Freedom on the autopsy of this child?

3

4

5

A. I'm not sure. This was a medical legal autopsy and we don't usually get those sent to us.

6

7

Q. You mean this one is done pursuant to a Coroner's investigation?

8

A. Yes. I think so.

9

10

Q. Certainly on page 96 there is The Coroner's Act - Report of Postmortem Examination.

11

12

13

A. I think there is a prefix on page 26, which is annexed to the history number, which is the autopsy number, it has the words - it has the initials ML.

14

Q. Yes.

15

16

A. So, I presume that's why we didn't get that information.

17

18

Q. And at the bottom of page 1 it records there is a complete report for the Coroner to follow?

19

A. Yes.

20

21

Q. You cannot now recall when you first saw the report?

22

A. No.

23

24

25

Q. But the piece of information obviously which I'm interested is one which you think





1  
2 may have come to your attention the week after this  
3 child's death, that is to say, the information  
4 contained in the last sentence of the second paragraph  
5 of the short history, the immediate cause of death  
6 is digitalis toxicity post mortem blood level detected  
7 was 26 nanograms per millilitre.

8 A. Yes.

9 MR. STRATHY: Mr. Commissioner, it  
10 is a minor matter and may be meaningless but as I  
11 understand it that U means micrograms and not  
12 nanograms.

13 MR. LAMEK: Q. That would be a vast  
14 amount of digoxin, would it not, if they were  
15 micrograms?

16 A. Yes, I think that the level  
17 was nanograms per ML. I think that's a misprint.

18 THE COMMISSIONER: Well, UG's  
19 are micrograms and they are per litre, are they not?

20 THE WITNESS: Well, I'm not sure,  
21 but I think that - I don't think that would be  
22 micrograms.

23 MR. PERCIVAL: Mr. Commissioner, if  
24 you look at page 91 you will see the clinical  
25 chemistry report, it talks about nanograms.

MR. LAMEK: That's right, it is











1  
2 expressed as nanograms per millilitre on the  
3 report. I'm grateful to Mr. Percival.

4 THE COMMISSIONER: Nanograms is  
5 billion of a gram, is that right?

6 THE WITNESS: Yes.

7 THE COMMISSIONER: And a microgram  
8 is a...

9 THE WITNESS: You've got me, I  
10 would have to look at my book.

11 MR. LAMEK: Something bigger than  
12 a billion, if I know that much.

13 THE COMMISSIONER: No, no, a  
14 microgram ---

15 THE WITNESS: A microgram is more --  
16 sorry, less.

17 MR. STRATHY: A thousand nanograms  
18 make a microgram, was my recollection, so, microgram  
19 was a million.

20 THE COMMISSIONER: Micrograms are  
21 expressed in litres as opposed to millilitres.

22 MR. STRATHY: That's so.

23 THE COMMISSIONER: Because a  
24 microgram is, would be a millionth then. If it is  
25 thousand times a nanogram it would be one millionth  
of a gram.





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MR. LAMEK: I don't think anyone really expected this was supposed to be 26,000 nanograms per millilitre.

THE COMMISSIONER: 26 microlitres per millilitre would be an impossible dose I take it.

MR. LAMEK: Yes. I think we can reasonably infer that the reference is to nanograms per millilitre.

Q. Doctor, that is a forthright statement by the pathologist, is it not, as to the cause of death, or his view as to the cause of death?

A. Yes, it is.

Q. Upon seeing that preliminary autopsy report, whenever it was, or upon receiving the information as to the pathologist's view as to the cause of death, what was your response?

A. My response was that that was an exceptionally high level that probably contributed to death.

Q. Well, does that mean that you disagreed with the pathologist's view of it?

A. No.

Q. Were you prepared to accept that the immediate cause of Kevin Pascai's death was digitalis toxicity?





1

2

A. We thought that most likely.

3

4

THE COMMISSIONER: I'm sorry, what was that?

5

6

THE WITNESS: We thought that most likely at the time,

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8

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MR. LAMEK: Q. I'm sorry, Doctor, I am perhaps not making myself clear. The pathologist doesn't say the immediate cause is most likely to be, and he doesn't say the immediate cause may be, he says the immediate cause of death is digitalis toxicity. I want to know whether at the time you obtained information as to his view and his conclusion and the information upon which his conclusion was based, whether you agreed with him.

15

16

17

A. We did, we rang the Coroner immediately we found that out again, for the second time.

18

19

20

Q. All right. Did any question occur to you as to how a level of 26 nanograms per millilitre could have been achieved in the blood of Kevin Pacsai?

21

22

23

24

25

A. Yes.

Q. Was that a matter that was discussed between you and other cardiologists and Cardiology Fellows?





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A. I believe at that time we did. We actually looked into the doses that were given again, we checked out - at least Dr. Fowler who is the Administrative Ward Chief checked the data out with the nursing groups involved and looked over a number of things in that regard. So that, indeed, that was a matter of concern.

Q. And did you conclude that the level reported by the pathologist was not one which would have been achieved by the administration of doses in the prescribed sizes?

A. We thought at that time that was true, that was the case. We thought this was not possible to do.

Q. And what did you therefore believe may have been the reason for the elevated digoxin level recorded in the blood?

A. Well, we could only assume that might be a dose that might have been given either by accident or intentionally.

Q. Was this the very first occasion, Dr. Rowe, when the possibility of intentional administration, intentional improper administration of digoxin had occurred to you?

A. Yes.







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3

4

Q. And I take it that was a matter for discussion between you and the other staff cardiologists?

5

A. Indeed.

6

7

8

Q. What if anything did you decide to do to try to determine whether you were dealing here with accidental or intentional dosing?

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15

A. Well, we simply had done the exploration of the ward to see whether there had been any question there. We didn't make any investigation of the actual resuscitation effort because that's a place where potentially there is the possibility for accidental administration. We didn't go any further than that because we felt this was now in the Coroner's hands.

16

17

18

19

Q. In reporting the death to the Coroner, was anything said to him, or to the Coroner's Office, about the possibility that had occurred to you, that there may have been an improper and deliberate administration of digoxin here?

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A. No, I don't think so. At that time, I'm not sure that we reached that conclusion that very day, but we certainly recognized that the level was high and he was notified about that.





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Q. Did you at any time communicate to the Coroner's Office the possibility which had occurred to you at that time, that the death may have been caused by a deliberate and malicious administration of digoxin?

A. No. I certainly didn't because I wasn't in touch with him about this case. I don't know about the others, but I don't know whether they did or not.

Q. All right.

A. I don't believe that that point was raised.

MR. LAMEK: Perhaps we could continue with this case after lunch, Mr. Commissioner?

THE COMMISSIONER: Yes, 2:30 then.

MR. LAMEK: Thank you.

---Luncheon recess.

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--- Upon resuming:

THE COMMISSIONER: Yes, Mr. Lamek?

MR. LAMEK: Thank you, sir.

Dr. Rowe, please.

Dr. Rowe, forgive me for a moment.

Mr. Commissioner, Mr. Ortved has indeed done his magic again over lunch time. He has been able to find from the Hospital the final autopsy report on Kevin Pacsai, and at a very quick look it does not appear to me that the textual material that appears in the preliminary autopsy report in the chart is changed in the final autopsy report. There is additional material that is available, and that consists of the report of postmortem examination in the Coroner's Act form. But perhaps we could have that marked, Mr. Commissioner, please, as ---

THE COMMISSIONER: 106-A.

MR. LAMEK: Was Pacsai 106?

THE COMMISSIONER: 106, yes.

MR. LAMEK: If Pacsai's chart was 106, then 106-A, please. I have not had a chance to make copies of that yet but I will have that done and distributed to counsel tomorrow morning.

THE COMMISSIONER: All right.

--- EXHIBIT NO. 106-A: Final Autopsy Report of Kevin Pacsai.





AA.2

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MR. LAMEK: Interestingly, there is a date on the Coroner's form of report there, Mr. Commissioner. I think it to be a date in late April. I did not make a note of it, but I think it to be April 23rd or something of that sort.

THE COMMISSIONER: Yes, April 23rd.

MR. LAMEK: St. George's Day, the final autopsy report.

THE COMMISSIONER: Yes, it is St. George's Day and Shakespeare's birthday.

MR. LAMEK: Shakespeare's birthday, indeed.

Q. And I take it, Dr. Rowe, from what we have heard that an interval of five, six, seven weeks between the performance of the autopsy and the appearance of the final autopsy report is not unusual?

A. No, it is not.

Q. For present purposes, I think we can stay with the text of the preliminary autopsy report, which everybody has before them, on page 94 of the report, and we were looking at that.

We were discussing, as I recall it just before lunch, the pathologist's apparently unambiguous view as to the immediate cause of the death of Kevin Pacsai.







AA.3

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Now, could we turn for a moment,  
please, to the progress notes in this chart, just to  
follow the course of Kevin Pacsai, particularly those  
from the early part of the morning. I am looking,  
therefore, at page 67.

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MR. PERCIVAL: Mr. Commissioner, I  
have page 33 of this hospital record. It is absolutely  
illegible for me, and I do not know whether your  
Lordship's copy of that is -- I do not even know what  
that comes from.

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THE COMMISSIONER: No, it is equally  
illegible with me.

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MR. LAMEK: If it is any comfort, mine  
is no better.

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MR. PERCIVAL: Does that emanate from  
Hamilton or from the Hospital for Sick Children?

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MR. LAMEK: That I believe to be a  
McMaster document.

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THE COMMISSOINER: Some of these I  
know have been so bad that we have had the originals  
checked and they somehow do not seem to be that  
much better.

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MR. LAMEK: That is so in some cases.

MR. PERCIVAL: Do you think it would  
be possible, Mr. Commissioner, if we could get the





AA.4

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original and perhaps have that inserted in due course?

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MR. LAMEK: Maybe Mr. Shinehoft can help us. I think he has access to these records as well.

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MR. SHINEHOFT: Yes, I do, Mr. Commissioner. I believe I have at home a legible copy, and I will try and bring it in tomorrow.

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THE COMMISSIONER: Well, if you could bring it in tomorrow, we could make the necessary number of copies, and I hope a little bit better than this one. There may be others in this ---

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MR. SHINEHOFT: The only one that I could find, Mr. Commissioner, and I have not looked at it that carefully, but I have tried to compare the reports that I have to the reports that have been filed as an exhibit, and the one that I do have at home, as I said, is more legible and I will bring it in.

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THE COMMISSIONER: Yes. Well, if you would not mind, Mr. Shinehoft, just taking the whole thing home with you tonight and if there is anything here that you can do better with, bring it along too.

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MR. SHINEHOFT: I will bring the entire report.

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THE COMMISSIONER: Yes, all right, thank you.

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MR. LAMEK: That would be kind.

MR. SCOTT: The only difficulty is Mr. Percival's interjection at his first day of the hearing will lead a reader of the transcript to conclude that everything heretofore has been legible. I hope that will not go without notice.

THE COMMISSIONER: Yes.

MR. LAMEK: Lovely that Mr. Percival has tried to read page 33 of the chart.

Q. The progress notes, Docotor, cover obviously a very short period.

THE COMMISSIONER: Sorry, what page were you reading from?

MR. LAMEK: Q. Perhaps I could start at the first of them ---

THE COMMISSIONER: I might add page 42, now that we are into this subject, does not seem to be an awful lot better, and page 47. I think you will find there are quite a few of them, Mr. Shinehoft, that are in bad shape. It may be bad copy work by our staff, but I think we have checked that in the past and found that ---

MR. SHINEHOFT: Yes, well I do have the records at home, Mr. Commissioner, and as I said, I will bring them in and make them available.







AA.6

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THE COMMISSIONER: Yes, all right,  
thank you.

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I am sorry, what page were you at?

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MR. LAMEK: Q. Perhaps I could start  
at page 63, Mr. Commissioner, the first page of the  
progress notes, which do not go for many pages,  
obviously.

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The note of Dr. Costigan on that  
page, Dr. Rowe, is made, I take it, as of 5:30 in the  
morning, I assume on March the 12th, although the date  
is not clear, but since the preceding entry was for  
March 11th going to at 7:15 in the evening, it seems  
to be not an unreasonable inference, do you agree,  
that he is now writing as of 5:30 the following  
morning.

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He says he was asked to see the  
patient because of anxiety and, then I have trouble  
with that word, and episodes of bradycardia.

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A. Anxiety re episodes.

19

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Q. Anxiety re episodes, thank you,  
of bradycardia down to 50 to 60, alternating with  
rates of 150.

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Now, the first few words of the next  
line escape me too, but something something noted  
during these episodes.







AA.7

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A. I think that is no blood pressure drop noted during these episodes.

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Q. Thank you. And a rhythm strip was presumably taken because he records what he saw on the rhythm strip. But his diagnosis at the end of that column of observations addressed two things: either "sick sinus or ? dig toxic"?

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A. Yes.  
Q. And that apparently was a possible explanation for the arrhythmias that occurred to Dr. Costigan on looking at the rhythm strip. Was that an explanation that to your knowledge had occurred to anyone else as a possible explanation for the episode of arrhythmia experienced by this child in the Hospital prior to the arrest one?

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A. I do not recall that that question was raised, although I would not be surprised if it had been raised by the cardiac people.

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Q. I take it you regard it as an appropriate question for Dr. Cogtigan to raise as a possible explanation?

A. Yes, even though the levels had been all right.

Q. Yes. But he proposes transfer to the ICU for observation and to hold digoxin, and the





AA.8

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orders for the 12th at page 77 of the chart certainly  
call for a digoxin level that morning, but I do not  
see an order to hold digoxin?

5

A. No.

6

Q. I may be missing something,  
Doctor, but do you see one?

7

A. I do not see one there.

8

9

Q. Certainly a level was called  
for at that time?

10

A. Yes.

11

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Q. The transfer summary at the top  
of page 264 really records the condition of the child  
upon his arrival at the Hospital and on the ward. Do  
you have any idea whose note that is, Dr. Rowe? It  
is rather similar writing to that of Costigan but I  
am not sufficiently good at that to be able to say.

16

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A. I do not think it is Costigan's  
writing.

18

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Q. Does it appear to be the writing  
of a physician?

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A. I would think from the way in  
which the doses are given and the comments in  
brackets like genta, pre-level less than 1 post 18,  
would be more likely to be made by a physician than  
anybody else.





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Q. Thank you. But he records perhaps a quarter of the way down the page on admission "looked pink, not in any distress". Then two-thirds of the way down the page, "rhythm strip show 2 to 1 conduction block". Did you see any of the rhythm strips, and I believe them to be those which are copied rather inelegantly on the first few pages of this chart, Doctor?

A. Yes.

Q. They were in an envelope, I believe, attached to the front cover of the chart; is that where one would expect to find them?

A. Yes, they may have been. Their policy with rhythm strips is that they should be selected out, the critical pieces, and then mounted. That does not always happen.

Q. It may be that you cannot tell very much from ---

A. You see, the difficulty is they do not have a date on them.

Q. No, they are merely identified by name Pacsai in some cases, but they do not appear to be dated.

A. There are occasional -- there is one on page 13 that has a date on it.





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Q. I take it there is no reason to doubt the interpretation on page 64 that on a rhythm strip taken on this child was a 2:1 conduction block shown. That would be consistent with his history, would it not?

A. Yes. I am not quite sure of the time that is being examined for that statement. Is that referring to admission to the Hospital?

Q. It may be referring to the time of admission to the Hospital. The whole note seems to be addressed to the condition of the child at admission.

A. Yes.

Q. On page 65 of the chart we have a note from 7:00 p.m. until 3:45 in the morning, 7:00 p.m., March 11, to 3:45 in the morning of March 12th, recording such things as were thought by the nurse to be of note: "apex, ranging from 151 when upset down to 87 when asleep. Baby had slow-fast irregularity..." three times until 3:45 in the morning.

Nutrition, tolerating feeds and drank eagerly. IV, infusing well.  
Respirations: ranging from 32 to 37; very shallow at times.







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"Baby seemed to be frothing at the mouth a couple of times so was suctioned once for small amount of (something) mucus" -

Clear mucus?

A. Yes.

Q. Do you attach any significance to that observation, Doctor, frothing at the mouth?

A. We usually - you know, the medical term "frothing at the mouth" means you're in pulmonary edema and having a lot of difficulty, but it doesn't sound from that description that this nurse, whoever that was (I think it was Miss Nelles)---

Q. Yes, it was.

A. --- had of the observations about respiration that that would be compatible with a baby who is in trouble with pulmonary edema.

So whether that just means there was a little fluid and the baby was blowing some sort of bubbles in some way, I don't know.

Q. She records that the chest sounds clear; good air entry throughout and he is pink in room air.

A. Yes.

Q. And that looks like a fairly





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peaceful first half of the night, does it not,  
Doctor?

A. It does.

Q. The next note is from 3:45  
until 6 o'clock in the morning, March 12th.

"At approximately 0400 attempted to  
feed baby and his behaviour was  
entirely different from the other  
times. He was lethargic and limp  
in my arms."

Apex, she listened to the heart beat  
and found it to be very irregular. The monitor was  
showing bouts of tachycardia in the 160's alternating  
with periods of bradycardia in the low 60's.

When the heart rate was low the  
strip showed occasional 2 to 1 block.

Respirations were shallow and mainly  
in the 30's. The blood pressure was down.

Extremities were blue so Dr. Costigan  
and the pediatric medical resident were notified  
and they came and examined the baby and arranged for  
his transfer to the ICU.

Continued to monitor the baby and  
he showed again some frothing at the mouth, and  
occasional twitching of the arms which she questions





BB4

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as perhaps seizure activity.

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Now whatever that frothing of the  
mouth was it appears to have occurred again.

5

A. Yes.

6

7

Q. Do you attach any significance  
to what she thought might be seizure activity?

8

9

10

A. Well just simply the observa-  
tion she has made. That would be a reasonable  
interpretation that sudden jerky movements might be  
seizures.

11

12

13

Q. Yes. Is there any significance  
that you attach to the fact that this baby was  
exhibiting seizure-like activity?

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A. I don't know what it would  
mean. It might just be that it might be just muscle  
twitching.

17

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A. It doesn't seem as though  
she was particularly alarmed about that.

19

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Q. But an observation that she  
made and recorded?

21

A. Yes.

22

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Q. The next observation I take  
it is of more significance: baby stopped breathing.  
What is that, five times for about 10 seconds or





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5 to 10 seconds? There is a multiplication sign there.

3

A. Yes. I can't decide.

4

Q. Apparently there were periods

5

of apnea anyway?

6

A. Yes.

7

Q. Put on oxygen for a short

8

time. Seemed to come around.

9

Apex continued to be irregular and  
bradycardic in the 60's.

10

The baby was transferred to the unit,

11

ICU, accompanied by Dr. Costigan. So there appears,

12

does there not, to be a reasonably dramatic change

13

in this baby's behaviour from his condition at 3:45

14

in the morning?

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A. Yes, and I presume that

16

Dr. Costigan was there at the time that the twitching  
was occurring because ---

17

Q. Yes.

18

A. --- they examined the baby

19

and arranged for the transfer and then the notes were

20

made after that.

21

Q. Yes. Then we have the ---

22

MR. PERCIVAL: Excuse me, what is

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the time of that note? 3:45 to something?

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MR. LAMEK: 0600 I believe.

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BB6

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MR. PERCIVAL: 0600?

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MR. LAMEK: I believe so.

4

MR. PERCIVAL: Thank you.

5

MR. LAMEK: Q. The note on page 66

6

appears to be the ICU admission note recording the  
arrival of the child.

7

8

In the middle of the page it is  
recorded that on leaving the ward developed  
bradycardia to 40. Cyanosis and brief apnea.  
Responded to stimulation. In ICU further episodes  
of bradycardia with 3:1 block.

10

11

12

Chest is clear clinically on chest  
x-ray, and below: impression, bradycardia, and  
then I can't read that word.

13

14

15

A. Bradyarrhythmia secondary  
to (1) digoxin toxicity, and (2) sinoatrial node  
disease.

16

17

18

Q. Thank you. Now that is  
Dr. Costigan's note again, and those are the same  
two possible explanations he produced back on page 63  
of his chart.

19

20

21

A. Yes.

22

Q. So he still seems to be  
thinking in terms of those two possible explanations,  
and I take it, Doctor, again, not unreasonable to

23

24

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BB7

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canvass those possibilities as explanations for this  
behaviour?

4

A. No.

5

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Q. And then on page 67 at 8:45  
in the morning, and this is what, some five hours  
after the dramatic change in his behaviour:

8

9

10

"Child becomes apneic. Severe  
bradycardia followed almost immedi-  
ately by ventricular fibrillation."  
Diagnosis there is what, hyperkalemic?

11

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A. Arrhythmia.

Q. Arrhythmia, attributable to  
the high potassium level. Is that what is suggested?

A. Which I think at the bottom  
of the previous page he had obtained a potassium level  
which was 7.7.

17

18

19

20

Q. 7.7, yes.

A. So I presume that is why he  
switched on the other diagnoses to that one.

Q. This is neither of the ones  
that he had originally put out?

21

22

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24

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A. No.

Q. He is now suggesting the  
arrhythmia may be attributable to the elevated  
potassium levels?





BB8

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A. Yes.

3

Q. That he has now had recorded.

4

Okay. We have sodium bicarb given,

5

drugs, no response; defibrillation, 10 joules

6

produces bradycardia mainly nodal rhythm. Little

7

response in rate or output and it is that sequence of

8

drug-defibrillation attempt and varying rhythms,

9

is it not, that goes through the piece?

A. Yes.

10

Q. Eventually failure - looking

11

a little over half way down the page - failure of

12

medical treatment, so cardiovascular surgeons - what

13

is that? I can't read that word?

14

A. Which? Oh, cardiovascular

15

surgeons inserted.

16

Q. Okay.

17

A. I think that word is inserted.

18

Transthoracic pacemaker.

19

Q. Yes. And there they get a

20

capture of some ventricular activity with output.

21

It only lasts 30 to 60 seconds before requiring

22

further closed chest massage.

23

Length of independent pumping became

24

less and less in spite of further medication with

25

dopamine, is that, and adrenalin?





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TORONTO, ONTARIO

Rowe, dr.ex.  
(Lamek)

2946

BB9

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A. Yes, dopamine and adrenalin.

Q. One hour and 20 minutes with  
failure of chemical and mechanical means CPR was  
discontinued.

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Dr. Costigan signs that note and then raises the question, how did the potassium get from 3.7 to 7.7 in less than twelve hours without any having been given. Not a bad question on the face of it, would you agree?

A. Yes, I suppose so.

MR. PERCIVAL: Mr. Commissioner, if one looks at page 68. Page 68, it appears to be out of order and should be page 65. If you look at the top of page 68, that's No. 4, and that doesn't follow after 67; it seems to follow after 64 because it deals with 1, 2 and 3 and then goes to 4 and then talks in terms of a plan, Mr. Commissioner.

MR. LAMEK: Mr. Percival is quite right.

THE COMMISSIONER: Yes. Thank you. All right.

Do you agree?

MR. LAMEK: Oh, he's quite right, Mr. Commissioner, yes.

Q. Now, Dr. Bain, as we know and we have already mentioned this, Dr. Rowe, Dr. Bain suggests that one of the explanations, or likely explanation for the increase in the potassium level -- just what did he say it was again -- from adrenal





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insufficiency, acute adrenal insufficiency.

3

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Is that a kind of condition into which one can make some investigation and arrive at some conclusion?

5

6

A. Usually you can.

7

8

9

Q. Do you know if anything was done to investigate the possibility of there having occurred some acute adrenal insufficiency in Kevin Pacsai?

10

11

A. I don't know. I don't think so.

12

13

14

15

Q. Did that occur to anyone in the immediate aftermath of his death, and by that, I mean the next day or two, as a possible answer to the question raised by Dr. Costigan at the bottom of page 67 of the chart?

16

17

A. I don't think it did to us. I don't know whether it did to others.

18

19

20

Q. Were people other than Dr. Costigan in that immediate aftermath period asking the same question, how did this child's potassium level increase so dramatically?

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A. I would suspect that the staff in the Intensive Care Unit may have done that. They usually conduct very detailed examinations of





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each death in their unit, but one would have to ask them. As far as I know, it was not raised in our group.

Q. Now, Doctor, I suppose now we have got in this case at least another possibility to consider. Are the terminal events of this child and the suddenness of their onset and the course that they followed consistent with, if there is such a thing, potassium intoxication?

A. I don't know the answer to that; I really don't. I don't have experience with that sort of problem. I suspect there are people who can answer it.

Q. And I take it from that answer that is not a question that had occurred to you to ask at any point?

A. No.

MR. PERCIVAL: Excuse me, Mr. Commissioner.

--- discussion off the record.

MR. LAMEK: Q. Are the terminal events that are described in the chart and their onset and course consistent with digoxin intoxication?

A. Yes, I think they are.

Q. Are they consistent with





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what you understood to be the clinical and anatomical condition of this child?

A. Are they consistent with the clinical and anatomical condition?

Q. Well, is this the course that you would have expected, the course of terminal events that you would have expected in Kevin Pacsai, knowing what you did of his physical and clinical condition?

A. No. We couldn't find any reason.

Q. Now, can you bear with me for just a moment, Dr. Rowe, please.

Can we turn back now to that preliminary autopsy report and, indeed, turn to page 94. I turn to it only for the sake of referring once again to the recorded digoxin level in the post mortem blood level. I think we have seen only one prior case where, at post mortem, a sample had been taken for digoxin assay and that, as I recall it, was Estrella.

A. Yes.

Q. Do you know who decided that, in the case of Kevin Pacsai, a post mortem blood sample should be taken for digoxin analysis?







Rowe  
dr.ex. (Lamek)

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A. I'm not sure who made the decision. My understanding, though, is that Dr. Costigan asked for that.

Q. Have you had any discussion with Dr. Costigan at any time about the decision to have post mortem blood samples taken for digoxin assay?

A. No, not that I recall anyway.

Q. Do we know when this sample was taken, Doctor? It might be helpful to look to the biochemistry reports, which are at page 81 and following.

A. Yes.

Q. There is also, for reasons that are not entirely clear to me, a further biochemistry report at page 91. They run from 81, 82 and 83 and then 91.

Now, Doctor, you may not be able to help me with this but can you confirm my understanding, which is that the date that runs along the top of the various specimen descriptions is the date of sampling. Is that your understanding of these things?

A. The date underneath the





CC6

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name of the patient --

3

Q. Yes.

4

A. -- and the admitting and  
history number and so on.

5

6

Q. Yes. Beneath the patient's  
name on the left-hand side, the first label is "Date" --

7

A. Yes.

8

9

Q. -- and running across the  
page, a series of dates.

10

A. Yes.

11

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Q. Is it your understanding  
that those are the dates of collection of the sample?

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A. That's my belief, yes.

14

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Q. Yes. And the autopsy in  
this case appears to have been conducted on March 13,  
1981. That, at least, is the date on the preliminary  
autopsy report, page 94, and if one looks therefore  
at 1, 2, 3, the fourth sample from the left on page 81,  
if our understanding of the meaning of that date is  
right, does it not suggest, Dr. Rowe, that that  
sample was collected before autopsy?

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A. It does suggest that.

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Q. Yes. And is is Specimen  
No. H-88043, but unfortunately, when we get down to  
the digoxin level, we are met with a rather cryptic





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CC7 2 comment, "to follow", I take it that means?

3 A. I presume so.

4 Q. Yes. And it is when we  
5 get to page 83, the report dated March 14, 1981, that  
6 that sample appears. It is again the fourth from the  
7 left, Specimen No. H-88043, and records a level of  
8 more than 10 nanograms per millilitre, does it not?

8 A. Yes.

9 Q. Now, unhappily, as we  
10 have said before, we don't know how high up is; we  
11 don't know how much more than 10 that level may have  
12 been.

13 THE COMMISSIONER: What does  
14 "NOTIM" at the top in the Hour of Collection, what  
15 does that mean? Is that not important? "No time",  
16 I guess. Yes.

16 MR. LAMEK: It may mean "no time".

17 THE WITNESS: It means that the  
18 time was not recorded on the side of the sample bottle.

19 THE COMMISSIONER: But would it  
20 have had to be before the next one at five o'clock  
21 in the morning or not?

21 THE WITNESS: I don't know.

22 THE COMMISSIONER: They all seem  
23 to go in order of time.

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MR. LAMEK: Yes, they do, in that case at least, Mr. Commissioner.

MR. PERCIVAL: Mr. Commissioner, if it is of any significance to the specimen number, the fact that some of them are 'H' and some of them are 'J' preceding the number?

THE COMMISSIONER: And some of them are 'Ss' too.

MR. PERCIVAL: Yes.

MR. LAMEK: Not so far as I am aware, but perhaps when Dr. Ellis comes back, he can tell us that, sir.

Q. Dr. Rowe, I am going to show you a copy of a page from the digoxin book which was an exhibit at the Preliminary Inquiry in this matter.

Mr. Commissioner, we referred to these yesterday. This is Volume 2. I see the Registrar has gone off in search of your copy.

THE COMMISSIONER: I'm sorry, what was that?

MR. LAMEK: It is Exhibit 45 within Volume 2 of the Preliminary exhibits, Mr. Commissioner.

THE COMMISSIONER: Yes.

MR. LAMEK: You will find that those







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are bound in such a way that, if you...

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THE COMMISSIONER: Yes. All right.

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MR. LAMEK: Exhibit 45, sir.

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Now, you will see, sir, that the pages are bound, they are copied two on a page, and you have to turn it over to look down the thing.

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At each corner, at the top, there is a number and the entries that I am interested in are on page 23, on the top right-hand corner of the page.

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Q. Now, Dr. Rowe, I don't for a moment suggest you have any responsibility or any knowledge of this, but I am showing to you the entry in Dr. Ellis' digoxin book which seems to correspond with the report which appears in the chart.

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Under the date of the 13th of March, on the right-hand side of the page, the fourth and fifth items in the numbering on the left-hand side of that page are identified as being from Pascai - the name is misspelled - Kevin, and the sample number is identified as "H-88043".

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A. Yes.

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Q. Yes. And it appears Dr. Ellis did a two times dilution of that sample. He's got an "X2" and a circle beside the name there and





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produced a reading greater than 10, but he said "NSQ for further dilution". Apparently he didn't have a large enough sample to do the further dilution necessary to find out how much more than 10.

Is that a reasonable inference to draw from that entry?

A. I think so.

Q. But that result wasn't reported until the 14th.

A. This seems to be on a different day.

Q. I'm sorry?

A. Is this not the 12th of March we're talking about here?

Q. Well, that was the sample date, wasn't it?

A. Yes.

Q. I think what we are looking at here is the second date.

A. Oh, the second. I see. Yes.

Q. He assayed the March 12th sample on March 13th.

A. Yes.

Q. And reported it on March 14th.

A. Yes.





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Q. Now, I want to come back to that one in a moment. I will have to come back when I have found the reference on this because there's another digoxin level reported from post mortem samples, is there not? If you will look, Doctor, at page 91 of the chart, that is a report dated March 24, 1981, recording the results of an assay conducted on Specimen D-57970, apparently collected March 13, 1981, which was the day of autopsy, and recording a level of 26 nanograms per millilitre in that sample.

A. Yes.

MR. LAMEK: Could I ask you, Mr. Commissioner, to turn to the next page of the digoxin book. It is page 24, at the top left-hand corner.





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The left hand page on page No. 24, Dr. Rowe, is the page headed "March 16, 1981", and samples No. 12, 13, 14 and 15 on that page are said to be from a child called P-a-s-e-h-i, with the initial K, and I suggest that may be a misspelling for Pacsai, whom we had earlier referred to as Pacsai but the sample number is D-57970, which I think is a sample number in which the 26 manogram level was recorded, was it not, at page 21?

A. Yes, and the autopsy number is given there, so that should be possible to confirm as well.

Q. D-57970, and they are recorded as having come from Pathology. There are four assays at different levels of dilution, and three of them record levels of 24, 25.5, 26.0 and they appear to be averaged at 25.5. In fact, the level of 26 is reported in that sample, is it not?

A. Yes.

Q. But Doctor, it is not reported until March 24th. Can you give me any help at all as to why, if these assays were conducted on March the 16th, they were not reported until eight days later?

A. I cannot. I do not know why that would be.







2 1 Q. I suppose we will have to ask  
2 Dr. Ellis about that. Would you not have thought,  
3 Doctor, that digoxin assays producing levels of  
4 26 nanograms per millilitre would be considered to  
5 be of significant interest to the person who had  
6 requested them?

7 A. Yes, you would. I believe  
8 they were - Dr. Costigan knew of that level on March  
9 18th.

10 Q. You think Dr. Costigan had  
11 information about that level rather earlier than the  
12 date of the report?

13 A. Yes.

14 Q. In fact, it appears, Dr. Rowe,  
15 that there was a third postmortem sample, and I had  
16 not been able to find a report of it in the chart,  
17 and I hope you will be able to help me.

18 This, Mr. Commissioner, is found on  
19 page 27 of the digoxin book, and I will show it to  
20 you, Dr. Rowe. Page 27, the date at the bottom of  
21 the preceding page is March 19, 1981, but the first  
22 two entries on page 27 at the top of the page,  
23 numbers 4 and 5 are again from someone whose name is  
24 spelled P-a-s-c-h-i autopsy, and they are in respect  
25 of a sample numbered A-74181, which I do not believe  
to be a sample referred to for digoxin level in the





1  
2 chart. I do not know whether you are able to help  
3 me on that. I tell you I have not been able to find  
4 it, but maybe you can.

5 A. I cannot see it on a quick  
6 scan here.

7 Q. But it appears from the digoxin book  
8 and of course we will have to ask Dr. Ellis about  
9 this, that on a 10 times and a 20 times dilution of  
10 that sample, he produced readings of 25 nanograms  
and 24 nanograms, does it not?

11 A. Yes, it does.

12 Q. Does it not appear, therefore,  
13 Doctor, that three samples were taken at or before  
14 autopsy from Kevin Pacsai, two of which appear in  
15 biochemistry reports which we have -- I am not  
16 suggesting there is anything sinister about our  
17 not having the other, it may have been mislaid. I  
18 do not know -- but of the three samples, it appears that  
19 one had a recorded level of 26 nanograms, one had  
20 recorded levels of different dilutions of 24 and  
21 25 nanograms, and the third, because there was not  
22 sufficient quantity to go on diluting, had a  
23 recorded level of more than 10 nanograms. That  
24 appears to be the result of the postmortem sampling,  
25 does it not?





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A. Yes.

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MR. STRATHY: Mr. Commissioner, I am only going to point out something because I think it is an inconsistency that is apparent on the record at this stage, and perhaps Mr. Lamek has overlooked it. But in Dr. Bain's report with respect to Pacsai ---

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THE COMMISSIONER: What page?

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MR. STRATHY: I am not sure that I have the page reference here. It is in the reference to digoxin data on Pacsai. It would be Appendix No. 1 -- I am sorry, it is Appendix 3 and it would be at ---

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MR. LAMEK: Page 48.

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MR. STRATHY: Page 48, about three-quarters or two-thirds of the way down the page, he talks about specimen H-88043, which Dr. Costigan had sent to Haematology while Kevin was alive.

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Now, Mr. Lamek has been referring to that as though it was a postmortem sample, but certainly from the record, Dr. Bain seems to be under the impression that it was a premortem sample and to be frank, I had understood that Dr. Rowe to be suggesting that too when he referred to Dr. Costigan taking the sample.







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MR. LAMEK: Yes. Mr. Commissioner, I  
am grateful to my friend for that.

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Q. Do you know, Dr. Rowe, whether  
a premortem sample was taken by anybody, by Dr.  
Costigan or at his direction, and sent to Biochemistry  
or Haematology?

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A. I am not sure. I think that  
information must be available and the obvious person  
would be Dr. Costigan, I would think.

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Q. Well, I can only tell you, sir,  
that I do not know the source of that information that  
Dr. Ellis apparently gave in testimony at the  
Preliminary Inquiry. So far as I can see, it does  
not appear from the medical record and neither do  
I see it appearing from the digoxin book, but Dr.  
Ellis can tell us what his understanding was of  
that sample.

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A. Yes.

Q. I take it, Dr. Rowe, that if  
Dr. Bain's information be correct and that the  
greater than 10 level that was recorded was in fact  
a level recorded in antemortem blood, then the  
reliability of that recording becomes greater, does  
it not?

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A. Yes, unless in some way it went







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some place else and had other things done to it or something like that.

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THE COMMISSIONER: Will you excuse me just for a moment. Mr. Strathy, what is the inconsistency? The 12th of March is the date of death, is it not?

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MR. STRATHY: Yes, I believe it was, but I think the question ---

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THE COMMISSIONER: So that we have not got the time and it probably was before 5 o'clock in the morning, so it probably was taken while the boy was alive, was it not?

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14

MR. STRATHY: I think that is a question as to whether it was or was not taken while the boy was alive.

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THE COMMISSIONER: I know, but I was wondering, has someone said somewhere that it is a postmortem sample?

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MR. STRATHY: Yes, I think Mr. Lamek was suggesting in his questions to Dr. Rowe that this and the other two samples were all postmortem, and I was simply pointing out the Bain report seems to suggest that that sample was premortem, not post-mortem.

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THE COMMISSIONER: Yes, it does, but do





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not the figures suggest that? You may have the  
answer, have you, for us on this?

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MR. SHINEHOFT: Well, Mr. Commissioner,  
I will refer you to the Atlanta Study, No. 02-0260 ---

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6

MR. SCOTT: Are we going to do that?

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MR. SCOTT: Because if my friend is  
going to do that, I want to do that.

9

10

THE COMMISSIONER: Well, you may be  
entitled to do it in cross-examination. I do not  
think we have solved that problem yet.

11

12

MR. SHINEHOFT: Only for the purpose,  
Mr. Commissioner, of ---

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14

THE COMMISSIONER: Well, at any rate,  
as you say, in the Atlanta Report what, but without  
reading what it is, what does the Atlanta Report ---

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MR. SHINEHOFT: There is an indication  
that the sample of greater than 10 was from pre-  
mortem blood as opposed to postmortem blood.

17

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THE COMMISSIONER: The sample of  
greater than 10 seems to be clearly postmortem  
unless ---

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MR. PERCIVAL: Mr. Commissioner, may I  
assist you?

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THE COMMISSIONER: Yes.

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2 MR. PERCIVAL: I think if you look at  
3 page 77, there was an order made in ICU, about six  
4 or seven lines down the page, "Digoxin level this  
5 a.m." and then under the word "Done" there is a stroke  
6 and an initial, and that certainly is before the child  
7 died.

8 THE COMMISSIONER: Where is this now,  
9 on page 77?

10 MR. PERCIVAL: On page 77, this is under  
11 ICU, eight down, "Digoxin level this a.m.". That is  
12 the order, and then opposite that there is a "Done"  
13 and then there is an initial.

14 THE COMMISSIONER: Yes, "Digoxin level  
15 this a.m.", you say after that there is a "Done"?

16 MR. PERCIVAL: Opposite that you see  
17 there is a "Noted" and "Done".

18 THE COMMISSIONER: Oh yes, I see what  
19 you mean.

20 MR. PERCIVAL: And that clearly was done  
21 by someone prior to the time the child died. I think  
22 that is probably the source of the information.

23 THE COMMISSIONER: And without going  
24 any further, is that consistent with -- that is  
25 consistent with the Atlanta Report, is it?

MR. SHINEHOFT: That is my understanding,







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Mr. Commissioner.

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THE COMMISSIONER: Yes. Well, I just mention it because there is nowhere other than what Mr. Lamek has been suggesting, nowhere else is there found the suggestion that that particular number, which is H-88043 was taken antemortem, is that not right? I mean, that is all the evidence.

MR. STRATHY: That seems to be the evidence, and I was simply pointing out that Mr. Lamek appeared to be in error in suggesting that that was a postmortem rather than a premortem sample.

THE COMMISSIONER: I am not absolutely sure you did make that suggestion but if you did --

MR. STRATHY: I think he understood himself to be making that suggestion.

THE COMMISSIONER: -- the evidence seems to be against you, that is all.

MR. LAMEK: Well, I confess that I believed that the specimen was taken after death, but if Dr. Ellis says it was not, then of course we will ask him and I would be delighted if it was not because it would clarify the matter greatly.

I am not sure that I can place quite the same confidence in the placing of the check mark on page 77 that my friend Mr. Percival does. The







1  
2 others seem to be very clearly in the "Noted" box  
3 with another check mark in the "Done" box. My copy  
4 of this is not sufficiently clear. I will check the  
5 original at the end of the day, sir.

10 THE COMMISSIONER: Yes, all right.

6 MR. SHINEHOFT: The only other thing  
7 I might point out, Mr. Commissioner, is that in the  
8 Atlanta Report they indicate the time at which the  
9 sample was taken, and that was at 5:30 in the  
10 morning.

11 THE COMMISSIONER: That is consistent--  
12 I would have preferred it to have been taken at 4:30  
13 in the morning because it does not fit in on page 83  
14 if it is at 5:30, but it is not that far out. It  
15 should be before 5 o'clock if this computer makes  
16 sense.

16 MR. SHINEHOFT: Well, the time is  
17 approximately that.

18 THE COMMISSIONER: Yes, all right.

19 MR. SCOTT: While we are adding  
20 complexities, I have just brought to Mr. Lamek's  
21 attention that in Dr. Bain's report in the sentence  
22 following the bit referred to, he says:

22 "It was a very small sample and showed  
23 a level of 4.7 or 5. They were able to  
24  
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"dilute it two to one on one occasion

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and it was still ..."

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And then the mark, 10 and then 9.4. I have been

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reading that mark as greater than 10, which I

6

think everybody has. Are we reading it wrong or is  
there a misprint?

7

THE COMMISSIONER: No, that is right.

8

That was the first one.

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MR. SCOTT: Well then, what is the

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meaning of 9.4.

11

THE COMMISSIONER: It does say greater

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than 10, if you look on page 83, it does say greater

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than 10, yes, that is right. That is what it says

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on page 83, greater than 10.

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MR. LAMEK: The only thing I can say

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with respect to that, Mr. Commissioner, is if you

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look at page 23 of the digoxin book where that

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particular sample is assayed or the results of the

19

assay recorded, the only value that I see there

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is greater than 10. There is no suggestion of a  
4.7 or a 9.4 or anything in that assay result record,

21

and if Dr. Ellis has provided some information to

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somebody that in fact his level was 4.7, not more

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than 5, then I suppose he is going to have to say

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that here because it does not appear from his own

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records.





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THE COMMISSIONER: Yes. All right.

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MR. LAMEK: Q. Forgive me,

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Dr. Rowe, you are not really forgotten in this whole

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proceeding. But at least we may have it that there

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were two and perhaps three postmortem samples in

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which assays were taken, and perhaps two postmortem

8

and one antemortem sample in which levels were taken,

9

and in each case it appears that the results were

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in all cases greater than 10; in two cases known to

be in the middle 20's, 24, 25 and 26.

11

A. Yes.

12

Q. Did anyone at the Hospital

13

to your knowledge ever ask how digoxin levels of

14

the order measured by Dr. Ellis and reported by him

15

could have been produced? Where did that digoxin

come from?

16

A. Yes.

17

Q. I'm sorry?

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A. I don't recall the detail

19

other than we received - when we received it on

20

the 18th and acted from there we were obviously

21

concerned about that level and we asked ourselves

22

the questions that we have referred to already.

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Q. Did the levels suggest to

you that in some way Kevin Pacsai had received more

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digoxin than had been ordered for him?

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A. We thought that. We thought

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that might be a possibility and that is why we

5

checked the dosage situation over.

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Q. Having checked the dosage

7

and satisfied yourself that the dosage prescribed

8

was appropriate ---

9

A. Yes.

10

Q. --- did the levels then

11

suggest to you that in one way or another this child  
had received more than the prescribed dosage?

12

A. Yes.

13

Q. Did you make any enquiry

14

as to whether there had been any administration error  
of the prescribed dosages?

15

A. Yes. That was done by

16

Dr. Fowler.

17

Q. Yes.

18

A. At the request to me by

19

Dr. Carver the head of the Department, and he

20

prepared a report on that.

21

Q. And was he able to satisfy

22

himself that there had not been any administration  
error?

23

A. I believe that he did after

24

25







1  
2 reviewing the matter with the head nurse and the  
3 nurses involved I presume.

4 Q. And having than satisfied  
5 yourself that there had not been an error in the  
6 administration of a dose and that there had not  
7 been error in the size of dose prescribed, did you  
8 have any other explanation as to how Kevin Pacsai  
9 had received digoxin in amounts that would produce  
10 the levels which had been reported?

11 A. We were - that was by the  
12 time we got that information together I think it was  
13 the 20th - such information as we had, and the  
14 very next thing that happened was that weekend in  
15 which all the cases came together at the end of the  
16 week and we were meeting with the police.

17 Q. All right, but that --

18 A. So we didn't have very much  
19 time to think of that but I don't recall exactly  
20 what thought processes we went through at that point.

21 Q. Do you recall what thought  
22 process you, Dr. Rowe, went through?

23 A. I remember what I did on  
24 Saturday but I don't recall going through something  
25 on Friday night.

Q. Well, Doctor, were not the





1  
2 avenues of explanation being closed off to you at  
3 that stage?

4 A. Yes.

5 Q. You had satisfied yourself  
6 that the doses prescribed were proper; you were now  
7 satisfied as of the 18th - I am sorry, was it the  
8 Friday?

9 A. The 20th.

10 Q. -- that there had not been  
11 a mistaken administration of an overdose or an  
12 improper dose to the child. How long did it take  
13 to assess the other possibilities?

14 A. Well, I think that we - the  
15 Coroner asked us all to come together the next day,  
16 and I think that it became clear then, but I don't  
17 know that we were spending our entire day looking  
18 at that question. I think we obviously were  
19 distressed by the fact that the level was high and  
20 we didn't have an obvious explanation.

21 Q. Well, I suggest to you,  
22 Doctor -let's be blunt about it - did you not have  
23 to confront squarely the possibility of intentional  
24 overdose?

25 A. Yes. I believe we did on  
Saturday.





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Q. And that I take it was a very unattractive thought indeed; an appalling thought?

A. Yes.

Q. Was this case Pacsai the first of the deaths that we have looked at that occurred since July 1st, 1980 in which you had entertained suspicions of intentional inference with the patients?

A. Yes, it was.

Q. And to your knowledge and from your discussions with other members of your Cardiology staff, were those suspicions shared by the other cardiologists in the service at the Hospital?

A. As far as I'm aware, yes.

MR. LAMEK: I want to get in a moment to the question of one involvement of the Coroner in this thing. I am proposing to turn to something else. May we take an afternoon break at this point, Mr. Commissioner?

MR. SHINEHOFT: Just before the break, Mr. Commissioner, Dr. Rowe has referred to a report that was prepared I believe by Dr. Fowler relating to the administration error and perhaps the Doctor could produce that report for us?





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THE COMMISSIONER: Well, I think they are working ---

MR. SCOTT: The Hospital has made a note and we will see if we can find out about that.

THE COMMISSIONER: Yes, all right, if you could.

MR. SCOTT: I should ask Dr. Rowe. Do you have it with you, Doctor?

THE WITNESS: I have it with me.

MR. SCOTT: If I could have a look at it and see if we can make copies.

THE COMMISSIONER: Yes.

Well, then, I think Mr. Scott will look at it and unless there is some great objection it will be made available when, tonight or tomorrow or some time?

MR. SCOTT: As soon as possible. I will let Mr. Lamek see it right away.

MR. SHINEHOFT: Thank you.

MR. SCOTT: As long as it doesn't say anything about Mr. Ortved that is not attractive. That is why I look at these things.

THE COMMISSIONER: We will take 15 minutes.

---Short recess.







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---Upon resuming.

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THE COMMISSIONER: I wonder,

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Mr. Lamek, if the first thing I could ask is how you  
5 are doing.

6

MR. LAMEK: Mr. Commissioner, it  
7 won't surprise you to know that I am taking rather  
8 longer with this Pacsai case.

9

THE COMMISSIONER: Yes.

10

MR. LAMEK: Although I knew it

11

was going to be an important one. I had hoped to  
12 get through at least two more cases today. Maybe I  
13 can get through one of them. I may not be very much  
14 longer with Pacsai as a matter of fact. Then  
certainly one more.

15

MR. PERCIVAL: Mr. Commissioner,  
16 would it be any problem if we were trying to finish  
17 tomorrow to start a little earlier? Everybody was  
here at 9:30 for a meeting that never occurred.

18

THE COMMISSIONER: Well, there's  
19 no problem as far as I am concerned with starting  
20 earlier, but I am told that it sometimes causes  
21 digestive problems in counsel if we sit before  
22 10 o'clock. But I can take a vote and see.

23

MR. PERCIVAL: Take medication.

24

THE COMMISSIONER: Those with good

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digestions...what do you think? Do you think you  
can complete tomorrow?

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MR. LAMEK: I think there is a  
very good chance that we will.

5

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THE COMMISSIONER: Well, is it  
advisable to sit at 9 o'clock?

7

8

MR. LAMEK: I have no problems with  
that. It might be a wise idea. 9 o'clock, and  
if necessary an abbreviated lunch.

9

10

THE COMMISSIONER: That is going to  
make it even harder. Let's compromise a bit. Let's  
make it 9:15. How would that be? Would that improve  
matters at all?

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MR. LAMEK: And a slightly shorter  
lunch.

15

16

THE COMMISSIONER: A slightly  
shorter lunch, yes.

17

18

Is anybody opposed wildly to starting  
at 9:15 morning? If anybody is they are apparently  
too ---

19

20

MR. SCOTT: Well, this is a long  
taxing day for the witness and perhaps his view  
should be...

21

22

23

THE COMMISSIONER: I think there is  
some merit in that, a good deal of merit in that.

24

25





1  
2 But at least it has a merit (before you make the  
3 decision, Dr. Rowe) that the sooner we get started  
4 the sooner we get finished.

5 THE WITNESS: I am listening to you,  
6 Mr. Commissioner.

7 MR. SCOTT: It is typical you  
8 offer salvation to those you want to convert and  
9 the Commissioner, of course, has just done it.

10 THE COMMISSIONER: Would you be  
11 available at 9:15?

12 THE WITNESS: Yes. No problem.

13 THE COMMISSIONER: Then I think  
14 we will start at 9:15 tomorrow and we will close  
15 off either at the end of the next one or if it goes  
16 through very quickly at the end of the one after that.

17 MR. LAMEK: Thank you, sir.

18 Now, Mr. Commissioner, during the  
19 break Dr. Rowe and Mr. Scott have been good enough  
20 to provide me with the reports to which Dr. Rowe  
21 had referred and copies had been prepared. I am  
22 going to return the originals of those to Dr. Rowe  
23 with thanks.

24 THE WITNESS: Thank you.

25 MR. LAMEK: And ask, sir, that the  
two reports be marked as the next two exhibits, having





1  
2 been referred to by Dr. Rowe.

3 The first is headed "Patient Kevin  
4 Pacsai", and dated March 18, 1981, 10:15 a.m. The  
5 author of that report is not identified but I under-  
6 stand - or perhaps you can help me.

7 Q. Who is the author of the one  
8 page report, Dr. Rowe, please?

9 A. The author of the one page  
10 report is Dr. David Carver, the Chairman of the  
11 Department of Pediatrics.

12 MR. LAMEK: Thank you. That will  
13 be the next exhibit.

14 THE COMMISSIONER: David what?

15 THE WITNESS: Carver, C-a-r-v-e-r.

16 THE COMMISSIONER: Carver? And  
17 that is number?

18 THE REGISTRAR: 109.

19 ---EXHIBIT NO. 109: One page document entitled  
20 "Patient, Kevin Pacsai" dated  
21 March 18, 1981, 10:15 a.m.

22 MR. ORTVED: 109, 110,  
23 Mr. Commissioner.

24 THE COMMISSIONER: Well, the report  
25 I had was 109. I think 109 is right.

MR. LAMEK: Are we agreed on that







1  
2 number, Mr. Commissioner? And next, sir, a two-page  
3 memorandum over the name and what I take to be the  
4 signature of Dr. R. S. Fowler. It is dated March  
5 20, 1981, at the foot of the second page and headed  
6 re Kevin, and the name is spelled P-a-s-c-i,  
7 with a Hospital for Sick Children number, No. 1202361.  
8 Date of birth 15-2-81.

9 Notation also at the foot of page 2  
10 is that copies were to go to Dr. Carver and Dr. Rowe.

11 THE COMMISSIONER: 110.

12 ---EXHIBIT NO. 110: Two-page memorandum of  
13 Dr. R. S. Fowler dated  
March 20, 1981 re Kevin  
Pasci.(Pacsai)

14 MR. LAMEK: Q. Doctor, just before  
15 leaving the question of the enquiry that was made as  
16 to the possibility of error in the administration of  
17 the prescribed digoxin dose, a matter which you say  
18 was cleared up to your satisfaction, at page 80 of  
19 the report - of the record, rather - page 80 of the  
20 record, the medication sheet, it is recorded that  
21 on the 11th of March digoxin was ordered for Kevin  
22 Pacsai. The dose of 0.02 milligrams to be administered  
23 orally twice a day at 9:00 a.m. and 9:00 p.m., and  
24 that order, presumably in light of the time of the  
25 child's admission to the Hospital was to begin on





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the evening of the 11th, was it not?

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A. I believe so.

4

5

Q. And appears to have been  
administered on that date by Nurse Nelles?

6

A. Yes.

7

8

9

Q. That is the only prescribed  
dose of digoxin for this child between the time of  
his admission to the Hospital and his death on the  
morning of the 12th, is it not?

10

11

A. I think it is unless there  
is something in the Intensive Care Unit's material.

12

13

Q. I see no reference there to  
an administration of a dose of digoxin.

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A. That would appear to be the  
case.

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Q. And appears from the  
memorandum which we have just filed as an exhibit,  
and you were satisfied on the basis of that information,  
were you, that the dose administered by Nurse Nelles  
at 9 o'clock on the evening of the 11th had been  
properly checked and was in accordance with the  
orders?

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A. Yes, and also that the  
material on the ward from which the digoxin was  
dispensed at that time was checked as having an





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appropriate concentration when sent to Biochemistry.

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Q. And as at the date of the  
admission of this child to the Hospital, Doctor -

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I can't put my finger at the moment on the digoxin

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level taken at McMaster before he left there - do you

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have a recollection of that?

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A. I think the level was 1.8

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nanograms per mil.

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Q. Yes, that's a level that is mentioned on page, I think it is 34 or 35.

THE COMMISSIONER: Page 35?

MR. LAMEK: It may be there, it may 34, sir.

MS. CRONK: 35.

MR. LAMEK: 35, yes.

Q. Yes, a third of the way down page 35, sir, he now has bradycardia of 75 to 100 a minute and a dig level yesterday of 1.8 nanograms.

Now, apparently he left McMaster with that level and from the time he arrived at the Hospital for Sick Children he received only one prescribed dose, which was satisfied was properly administered and then either immediately before or shortly after the time of his death, depending upon whether one of those samples was an antemortem sample, produced blood levels of, in one case greater than 10 and in two cases 25, 26 nanograms?

A. Yes.

Q. That's the sum and substance of it, isn't it, Doctor?

A. Yes.

Q. Can I just refer you again to the elevated potassium level as well. As at the date







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of Pacsai's death, or at least as of the date when you became aware of the elevated potassium levels in that child, did you know or did you make any inquiries as to what the symptoms of potassium intoxication may be?

A. Did I personally?

Q. Yes.

A. No.

Q. Did you make any inquiry about that?

A. No.

Q. Did you consider the possibility of potassium intoxication - let me go back. Did you consider the possibility of administration of potassium to this child as an explanation for his elevated levels?

A. No, I don't believe I did. I don't know whether the people in the Intensive Care Unit may have.

Q. So, if I understand you, Doctor, you did not contemplate the possibility of intentional administration of unprescribed doses of digoxin?

A. Or unintentional.

Q. Or unintentional that you did not contemplate the possibility of intentional or unintentional overdoses of potassium?





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A. No, I think that's fair.

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Q. All right. Now, the death,

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as we know, was reported to the Coroner and at page

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85 of the chart, page 85 is a document which I take

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to be an internal document of the Hospital. It is

7

headed "The Hospital for Sick Children Hospital Report -  
Coroner's Case".

8

A. Yes.

9

Q. And is this form to be filled

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out whenever a death is reported to the Coroner's

11

office? Is this a matter of internal Hospital

12

administration?

13

A. I think so.

14

Q. Was there any discussion to

15

your knowledge, or to which you were a party, that

16

preceded the decision to refer this case, the case  
of Kevin Pacsai, to the Coroner?

17

A. Yes, I think there was, with

18

Dr. Fowler. I don't know who else he conferred with.

19

Q. Can you tell me what information

20

you have about the substance of that discussion?

21

A. Well, he was concerned about

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the way in which the baby died and he was concerned

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I think at the father's reaction to the death. He

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felt it was important, and I agreed with him, that  
this should be reported to the Coroner.

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Q. Now, the immediately preceding page on the record, page 85, is a death certificate signed by Dr. Tepperman, who is one of the coroners, is he not?

A. Yes.

Q. Unhappily, Dr. Tepperman has not indicated the date upon which he signed this certificate and no doubt we shall have to ask him to have any certainty of it. But do you have any recollection or information as to when the death certificate was signed by Dr. Tepperman?

A. No, I would not normally know when a coroner signs this certificate.

Q. I ask you this because of course the identification of the immediate cause of death in that certificate is digitalis toxicity?

A. Yes.

Q. It might suggest, might it not, that this certificate may have been signed at some time later?

A. I would have thought so, but I don't know.

Q. When perhaps the autopsy report was available.

A. Right.





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Q Doctor, we know that at a later point, at a later point in the month of March, the method of storing and securing digoxin on the wards was changed. Is it your understanding, as it is mine, that until the weekend of the 21st, 22nd of March, 1981, digoxin had not been a controlled drug on the wards?

A Yes, that is my recollection.

Q And it was not kept under lock and key and it was not inventoried at the beginning and end of each shift and so on. Is that so?

A That's correct.

Q But towards the end of March, and particularly on the weekend of March 21 and 22, that was changed, was it not?

A Yes, it was.

Q And digoxin began to be treated on the wards, as in the same way a narcotic drug is treated on the wards?

A Yes.

Q That is to say, strict flow sheet of the substance that is there accounting for essentially every drop of it?

A Yes.

Q If it was known to you by the







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18th of March that there was grounds to suspect that digoxin had played a part in the death of Kevin Pacsai, was consideration given immediately at that time to asserting greater control over supplies of digoxin on the wards?

A. I don't believe it was on the 18th.

Q. When was attention first given to that question of controlling access to digoxin?

A. I think it was after a meeting with the Police and the Coroner's Office.

Q. Well, we will come to that one later.

Perhaps we can turn now to the case of Michelle Manojlovich, if only so that we may try to dispose this afternoon of a very bulky Hospital record.

THE COMMISSIONER: Before you do that, have we done Barbara Gionas?

MR. LAMEK: No, I haven't.

THE COMMISSIONER: That is deliberate though?

MR. LAMEK: Yes.

THE COMMISSIONER: All right, yes.

MR. LAMEK: Q. I think I may have





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given you the one that I want to be marked as an  
exhibit, Doctor. We will have a witness copy for  
you, but I need to show it to you anyway.

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A. Yes, all right.

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Q. Doctor, I believe that we have  
bound in two volumes the Hospital records for  
Michelle Manojlovich. Can you so confirm this for  
me, please?

8

9

A. I confirm Volume 1 and Volume 2.

10

MR. LAMEK: Thank you. May those two  
together be the next exhibit, please, Mr. Commissioner?

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THE COMMISSIONER: What number are we  
at now?

13

THE REGISTRAR: Exhibit 111.

14

THE COMMISSIONER: Exhibit 111 A and B.

15

MR. LAMEK: Thank you.

16

--- EXHIBIT NO. 111-A: Medical Records  
of Michelle Manojlovich,  
(Volume 1).

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--- EXHIBIT NO. 111-B: Medical Records  
of Michelle Manojlovich,  
(Volume 2).

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MR. LAMEK: Q. Now, Doctor, this child  
was born on June 18th, 1980. Her last admission to  
the Hospital for Sick Children was February 2, 1981  
and she died at 2:35 in the morning of March 12, 1981.

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We have behind you a diagram of the

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heart of the child, I trust it is a diagram of the  
heart after surgery?

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A. Yes, it is.

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Q. And does it reasonably accurately  
portray the heart of that child?

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A. Yes, it does.

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MR. LAMEK: May that be the next  
exhibit, please?

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THE COMMISSIONER: Exhibit 112.

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--- EXHIBIT NO. 112: Heart Diagram of  
Michelle Manojlovich.

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MR. LAMEK: Q. Could you describe  
for us, please, the anatomy and the surgical repair  
that was made?

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A. Yes. This little girl had a  
malformation that is entitled pulmonary atresia,  
meaning the pulmonary valve was atretic or completely  
closed with intact ventricular septum, meaning that  
there is no defect at the ventricular level, no  
defect between the two pumping chambers and with a  
hypoplastic right ventricle. So, the right ventricle  
of the heart is about that big, compared to the left  
ventricle, which is of somewhat larger size.

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The diagram is obviously a composite  
one because we are dealing with a number of

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interventions, but basically before any operation is done in this situation, blood comes into the right atrium, as normally. The right ventricle is not only small but the tricuspid valve is reduced in size accordingly so that this whole area is underdeveloped, meaning that blood, even though blood might get in here, it is of considerable difficulty for it to do so. It certainly doesn't get anywhere from that point.

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So, generally speaking, blood tends to go through a defect in the atrial septum, the trapdoor or a more significant defect, usually the trapdoor is just lifted up and goes over to the left side of the heart where it is pumped out into the aorta.

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The only route for blood to get back to the lungs is through a patent ductus arteriosus, which exists for a short time after birth.

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So, blood would be blue up to this point and some of it would go down through the ductus into the lung and after it's gone through the lung it comes back in the pulmonary veins, into this left atrium, and it would go down into the left pumping chamber and out into the aorta. But in this chamber up at the top here it mixes with the blood that's been







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coming across from the right side. So that in fact the blue blood doesn't get anywhere here, goes across to the left side and mixes immediately with whatever blood has gone through the lungs to make yourself an ad-mixture of pink and blue.

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It is obviously dependent upon how much blood is getting through the lung as to what the final colour of blood will be in the aorta, in other words, how much oxygen there will be. As the ductus begins to close, then the amount of blood going through the lung reduces. That cuts down on the amount available to mix with the cyanotical blue blood so that the patient gets progressively more cyanosed.

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The initial treatment of this situation is to give prostaglandins or something that will keep the ductus open so that the baby will not deteriorate on the way to the Operating Room, but then some form of shunt between the aorta and the pulmonary artery of a more permanent nature than the ductus is made and, in this case, I believe there was a Waterston anastomosis made, I think I have that right.





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No, I do not think it was -- I am not sure. It was a shunt between the aorta and the pulmonary artery, however, and the two were joined together.

The valve that exists in this very small ventricle was also operated upon to make an opening, so that instead of being an atretic valve, the surgeons made it a stenotic valve; that is, they created an opening so that there was theoretically a chance for blood to go through there.

The reason for doing that in addition to the shunt is that this little, tiny chamber has a very thick wall and it generates enormously high pressures. I think I mentioned in one other case that the problem about that is that the back pressure from that very high pressure, which is higher than the pressure in the aorta, often as much as twice as high, is that it interferes with the blood supply coming from the coronary arteries and makes the blood go backwards in those coronary arteries so it avoids -- at least it prevents the coronary arteries nourishing the muscle. The pressure in this chamber backs up the blood in the coronary arteries so there is a very bad combination of events.

There is not only hypoxia because





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of the blueness but there is this effect on the heart muscle in addition. So the valve is usually opened up with a scalpel as well as doing this shunt, and that was done here.

Then, after an interval of time, which is not very long usually, the patient is brought back again after having been discharged and recovering from this and a re-study is made of the dynamics of the condition, so that a heart catheterization is repeated, pressure is re-evaluated, the size of this chamber is examined to see if it has grown at all and then a decision is made about further surgery.

In this case, as in most, the decision had to be, although the pressure had been lowered somewhat here, it was still just the same as on the other side and, clearly, it was still a very small chamber. So in order to try and get that to grow, a valve was put in with a patch. There is a very extensive reconstruction, as it were, of the whole of the outflow area of this tiny little chamber. There is a valve, you can see a little ring in there, which is meant to represent the valve. The patch goes up here because it has to carry this valve, and there is a patch that goes on to the ventricle itself to increase the size of that chamber. That is the type







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of operation that is employed in this very difficult condition. I say difficult because the surgeons are able to usually get people through the first stage and even the second stage of the operation, but the outlook for the condition is really very poor unless there is growth of this chamber.

There are varying degrees of under-development that exist that influence the outcome in this type of surgery. In the case of this girl, the ventricle was really very small and there was a good deal of concern about what the long-term outlook might be.

Q. Dr. Rowe, thank you.

In following the child's course in the Hospital in her last period as a patient there, perhaps we should start at page 25 of Volume I, which is a letter from Dr. Rose to Dr. Cullimore in Niagara Falls, apparently the referring physician of this child.

She reports having seen Michelle Manojlovich, now seven months old, for reassessment on January 6th, a diagnosis of critical pulmonary stenosis, a pulmonary valvotomy and a central main pulmonary artery to aortic shunt performed by Dr. Trusler when she was six days old, and you have







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described that procedure to us.

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"Since that time, she has been

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maintained on Digoxin and Aldactazide."

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I take it, Doctor, this was an out-patient? She was  
at home with her family?

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A. Yes, she would be at home.

7

Q. Is it usual to have

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children on a regimen of digoxin and aldactazide

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while they are at home?

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A. Yes.

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Q. And I take it parents

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are taught how to administer the drugs?

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A. Yes.

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Q. With a child of this age,

how is digoxin normally administered?

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A. By mouth.

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Q. Orally?

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A. Yes.

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Q. But not in a tablet form,

I take it?

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A. No. It is given by an

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elixir, which is a liquid solution that is well

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tolerated by babies, well accepted I would say.

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Q. As I understand it, in

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administering that elixir orally to infants in the

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hospital, a syringe is sometimes used to squirt the material into the mouth of a child?

A. The syringe allows a more precise measurement of the amount than the commercially available dropper.

Q. How are the parents of a small child who is receiving these drugs at home, how are they taught to administer the drugs?

A. They are taught to do that in the hospital by the nurses with the syringe and they are supplied with syringes.

Q. I take it the dangers of excessive administration are impressed clearly upon them?

A. Yes.

Q. Now, this little girl had been at home --

THE COMMISSIONER: Before you leave that, it seems, with the figures we have had of digoxin levels in some children going up to really quite dangerous levels, how do you control this when the child is at home, or do we just assume it does not happen?

THE WITNESS: No. One usually reaches a point with the administration of digoxin that





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digoxin levels are not a requirement on a frequent basis. That usually depends upon individual physicians, but once the baby is relatively stable --

THE COMMISSIONER: I see. You would not send one home until you were reasonably sure that a child would not, if the dosage was a steady one --

THE WITNESS: Yes. You would try to -- you know, we really do not usually discharge people who are precarious, but I can tell you that a very large number of our patients are controlled in this way successfully without problems. Now, every pediatrician or physician who is following this sort of baby realizes that there are certain situations where they may have to obtain digoxin levels, particularly if a baby has any gastroenteritis, any acute illness, and that is when, you know, those things have to be watched, in case there is any electrolyte upset. But the vast majority of youngsters who are on the medication who are stable do not require frequent digoxin level. You know, it varies a little bit with physicians as to how heavy or otherwise they may be in one direction or the other, but I think that, generally speaking, weekly levels or twice-weekly levels would not be undertaken at home.







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THE COMMISSIONER: What sort of a dosage would the ordinary -- I do not know whether there is an ordinary child with digoxin, but take this child, for instance, what dosage would she have for a parent at home?

THE WITNESS: At home? Well, she was getting, in that letter, you see Dr. Vera Rose had increased the amount of digoxin, but it is on a weight basis and, usually if they are stable on a weight basis, you can increase it as their weight grows every so often.

I should add that one of the reasons why we feel fairly comfortable about that arrangement is because, for very many years in the Hospital for Sick Children, the dosage of digoxin that has been administered on a maintenance base or on a total digitalizing dose base is substantially lower than doses that are employed in many other hospitals.

I think we mentioned once before that there was a difference in the amount we would have given to a baby who is transferred to us from an outside hospital, which is not to say that we think they do a bad job but simply that, in our experience, you do not have to give huge doses in order to get an effect in most cases.







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The only time you run into that difficulty, it seems to me, is when you have somebody who is not responding to therapy who is in progressive difficulty, and there you have to be much more cautious about the level and much more cautious about the control of it. But, in general, it is not a big problem and, of course, up until 1974 or so, we did not have digoxin levels and, as far as we know, we were not creating big problems with digitalis toxicity.

THE COMMISSIONER: Are there some children who take -- children, and I mean people -- who take digoxin from early infancy throughout all of their lives?

THE WITNESS: There cannot be very many who do that, but there may be some.

MR. LAMEK: Q. Doctor, Dr. Rose, in her letter of January 7, sets out the observations made on examination on January 6, referring to a number of observations which, I take it are indicative of a measure of congestive heart failure in this child?

A. Yes.

Q. The liver edge was probable 3 centimetres below the right costal margin and the spleen tip felt, that sort of thing; cardio-





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megaly, and indeed, the child, having been on a regimen of digoxin and aldactazide at home, does that not itself indicate that there was a heart failure situation that was being kept under control or trying to be kept under control?

A. Yes.

Q. Her cyanosis, though, has increased since the last visit. She has gained a little. Electrocardiogram shows sinus rhythm.

At the bottom of the page:

"...this child remains in some degree of cardiac failure despite use of Digoxin and Diuretics. Her cyanosis is also increasing, although the mother had not noticed this herself."

Dr. Rose proposed that the child come back in for cardiac catheterization to assess the cardiovascular status and to consider whether further surgery might be appropriate to improve the blood flow to the lungs.

A. Yes.

Q. And arrangements had been made for an admission on January 18th and, in the meantime, as you point out, the dose of digoxin is increased and the aldactazide is 5 milligrams twice a





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Now, there was, then, that brief admission, was there not, Doctor, in January, the 18th to the 20th, and that is summarized at page 519 in Volume II of this chart. To the extent that this provides a background for her last stay in the Hospital, it may be valuable to look at it, I think, Doctor.

A. Yes.

Q. Page 519 in Volume II is the discharge note for this child for a brief stay in the Hospital January 18 to January 20, and it appears that she was admitted, was taken to the catheterization lab and the investigation was there made.

Would you summarize for us, please, the findings that were made on that investigation, Doctor?

A. Yes. The arterial oxygen saturation, that is the percentage of oxygen in the blood in the aorta or the arteries generally, on the left side, was 71 per cent, remembering the normal is 96 per cent. So there is some desaturation which is compatible with the fact that she is deeply cyanosed. There was also evidence of this right-to-left shunting between the two atria, as I mentioned





1  
GG11 2 before, not unexpected, of course, because unless  
3 there had been a huge change in the right ventricular  
4 size, there would not be any change in that. And  
5 now the right ventricular chamber has a systemic  
6 pressure, meaning that the pressure in the right  
7 ventricle, instead of being higher than the systemic  
8 pressure in the aorta was about the same.  
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So it had been somewhat reduced but had not been reduced far enough. And the only other thing is that this condition which I didn't mention before does tend to produce some leakage backward in the tricuspid valve, tricuspid regurgitation, and that was also prevalent there, and they confirmed that there was a functioning shunt from the first operation.

Q. That was performed on the 19th. The follow-up at the end of the note on page 520 is that the child is to be discussed at the cardiovascular surgery conference where recommendations will be made for future surgical correction to relieve the hypertension on the right ventricle.

Can you tell us, doctor, just what was proposed by way of surgery or what was being considered at that stage?

A. The only way to decrease the pressure in this situation if the right ventricle is very small is to perform this extensive plastic -- at least plasty of the outflow tract to the right ventricle, opening up as wide as possible with patches like a gusset, and then put a valve in to allow the situation to work in a relatively normal way if you can.





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Q. So, it is against that  
background --

A. This is the right ventricle.  
Where the diagram shows the patch is what you are  
trying to open up, the exit situation for this  
chamber. So in order to do so you have to enlarge  
the whole area appreciably. The best way to do this  
is to put a gusset in, to make an incision down here  
(indicating).

I'm speaking like a surgeon now.  
Dr. Trusler wouldn't agree. But then you place the  
tube in there which is a flap with a valve attached  
to it, and then you extend the gusset down to the  
right ventricle so that you enlarge both the right  
ventricle and the pulmonary artery, and hopefully  
allow more blood to get out and not to have so much  
resistance.

So that was what was contemplated  
at the conference. I'm not sure, but there should be  
a record of that conference in here somewhere.

Q. In fact there is a summary  
of the surgery that was done, doctor, but against that  
background can we then go to the child's stay in the  
Hospital for which she was admitted on February 2,  
1981.





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The summary again probably best appears from the short discharge note on page 68 of Volume I.

It records the history in the first paragraph. Again Dr. Schaffer, and the findings of Dr. Rose in January, and records:

"On February 5 the child was taken to the OR where the right ventricular outflow tract was reconstructed with a pulmonary valve insertion, Shiley NO. 15 valve, with a pericardial patch to the right ventricular outflow tract."

Which I take it is the surgical intervention you were just describing, is it?

A. Yes.

Q. "Also the central shunt which had been created in the newborn period was enlarged."

A. Yes. That is not shown on that diagram.

Q. No. It is then recorded that:

"Following surgery the child had a very difficult post op course. She





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was initially in low output syndrome which was managed with inotropic support, Dopamine and Isuprel."

Can you explain that to us, doctor, please, low output syndrome and inotropic support?

A. This would be done -- this operation would have been done using cardiopulmonary bypass, and in addition it affects -- in addition to that particular major sort of insult to the child, as it were, it is obviously the only way to do this sort of surgery, there are some real penalties that come from the use of that technique; the right ventricle in this case has been heavily incised, as it were, to put these gussets and things in, so there are a whole lot of factors in a very young baby that can make things very difficult after they come off the pump. It is a condition that usually results in poor contraction of the heart muscle and poor output from the heart itself. So it is called a low output syndrome.

It is a fairly common consequence of this type of operation, and it depends upon the actual anatomic problem as to whether that lasts a long time or whether you can get over it fairly quickly.

Today the techniques available in







1  
HH5 2 the Intensive Care Unit, with inotropic, as they call  
3 it, support here means new more powerful drugs, the  
4 use of other newer drugs that make the work of the  
5 heart less, and that sort of activity can improve  
6 the output state where it is in a child who has a  
7 fairly good or reasonably good anatomy at the end of  
8 the repair.

9 If on the other hand you have got  
10 anatomy that is not greatly assisted or improved by  
11 repair, then you are much more likely to have a pro-  
12 longed battle with low output.

13 I hope Dr. Trusler approves of that  
14 description.

15 Q. I'm sorry?

16 A. I hope Dr. Trusler approves  
17 of that description.

18 Q. I'm sure he will. If you  
19 like, you can ask him to confirm that.

20 The note says that:

21 "Also during the immediate post op  
22 period the child developed signs  
23 of hepatitis and developed acute  
24 hepatic failure."

25 Indeed that seems to be a major concern during most  
of the, or a good part of the time the child was in





HH6

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the ICU, does it not?

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A. Yes, it is.

4

Q. It occupies a lot of

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space in the chart, concern over the liver condition.

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"No diagnosis for this type of

7

hepatitis was ever found, however

8

it was felt to be non-A, non-B."

9

And I am nonplussed. Can you help me, doctor. What does that mean?

10

A. Well, I think it is just

11

a type of hepatitis which does not involve either A

12

or B forms which are the two main types.

13

Q. Two main types called

14

imaginatively A and B?

15

A. That is right.

16

Q. And it doesn't appear to

be either of those?

17

A. No.

18

Q. All right.

19

A. That is all I can tell you.

I am not a liver expert.

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Q. Of uncertain origin and

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uncertain type, I take it, in this child?

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A. Yes.

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Q. "She was treated with

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steroids and low protein intake initially. Slowly the congestive heart failure and hepatic failure began to resolve and the child became stable and was transferred to the general floor."

And that is a very short-hand way of describing her fairly up and down course, is it not, doctor?

A. Yes.

Q. "On the general floor the child continued to make slow, gradual improvement with increasing cardiac output, clinically and improving hepatic function."

They got her on oral feedings. There was an episode of aspiration on March 4 causing acute respiratory distress and she had to go back to the ICU, intubated for respiratory support.

Now, aspiration, doctor, can you tell us what it is?

A. Where the baby inhaled -- either inhaled after swallowing or vomiting so that the material went into the lungs.

Q. "Subsequently weaned from the ventilator four days later and





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she returned to the general floor where she began making a slow gradual progress in the process of recovery."

Do you agree with that short characterization of her course back on the ward?

A. Well, yes, I think that is a short account of it.

Q. Right. And then records: "In the early morning of March 12, after the child had spent a comfortable day with no specific problems, she suddenly became bradycardic with a slow rhythmic rate of 40 and developed signs of shock with no cardiac output."

Resuscitation unsuccessful and she was pronounced dead and no autopsy was performed. No consent for autopsy was obtained.

A. That is correct.

Q. And reports the final diagnosis.

Doctor, what in your judgment is significant for an understanding of the death of Michelle Manojlovich and the time and the course that







1  
HH9 2 those events followed?

3 A. Well, apart from the  
4 question of the long period of low output which is  
5 worrisome because that means that probably some  
6 muscle damage has occurred and the hepatitis question,  
7 there were problems with a number of things in the  
8 ICU.

9 In addition there was fever,  
10 elevated white count. There were periods of hyper-  
11 kalemia and hypokalemia, meaning that the potassiums  
12 were all over the place.

13 There was increasing failure later  
14 in the picture, and a lot of episodes of collapse  
15 and with this you have -- mind you there was a whole  
16 host of things.

17 One of the impressions in the ICU  
18 was that the heart failure was becoming worse (I mean  
19 after the aspiration) and I think that was just a  
20 gradual slow addition to things.

21 There was no doubt that the problem  
22 of respiratory care and heart failure care was upper-  
23 most.

24 The impression that I would get is  
25 that over the last five or so days after return from  
the ICU this baby was gradually getting worse and there





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HH102 were -- I think this was mainly the degree of failure,  
3 some atelectasis as well but mainly the degree of  
4 failure.

5 Q. I must say, doctor, I  
6 was surprised to hear you say a few minutes ago that  
7 you agreed with the statement in the discharge report  
8 that she returned to the general floor where she  
9 began making a slow, gradual progress in the process  
of recovery.

10 A. Yes.

11 Q. I would have thought that  
12 was a rather rose-coloured glasses way of looking at  
13 things at that stage.

14 A. I think it probably is.

15 Q. Yes.

16 A. The optimists. The fact  
17 is that it isn't actually supported by a closer look  
at the notes.

18 Q. Dr. Rowe, what significance  
19 if any do you attach to the liver failure problem as  
20 having any importance in the consideration of the  
death of this child?

21 A. Well, I think just as a  
22 general problem on top of all the other problems it  
23 just adds more difficulty, and I think in somebody  
24  
25





1  
HH12 who has got heart failure, to have severe -- to have  
3 hepatitis, that is even worse perhaps if they can  
4 be disconnected one from the other.

5 I believe that the liver authority  
6 in this youngster thought that ordinarily the prognosis  
7 from the liver situation might be quite good, but I  
8 don't know to what degree it might be altered by the  
9 finding that the failure started to increase. I  
10 suspect that might make recovery a little bit more  
unlikely.

11 Q. Now, doctor, if we know  
12 the child was receiving digoxin both before she came  
13 back into the Hospital at home and while she was in  
14 the Hospital, the biochemistry results contained in  
15 Volume II beginning at page 332 which happens to be  
16 the first page of Volume II, and on page 333, levels  
17 are recorded or samples are assayed on February 6th  
18 twice; the first, no sufficient quantity, and the  
second showing a level of 1.3.

19 On February 9th, a level of 1.5.  
20 At page 337, on February 12th, a level of 3.2, and  
21 that I think to be the last digoxin level -- sorry,  
22 on February 18th, a level of 2.4, page 345.

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Q. And on page 348 on February 20, a level of 3.3; page 354, the levels are down again, 23rd of February 2.0, 24th of February two samples, 1.5 and 1.3; page 355, 25th of February, a level of 1.5; page 356, the 26th and 27th of February, each 1.4; page 357, 1.6 on March 3rd, 1.1 on March 5; page 360 2.2 on March 11.

And those are they. There seems to have been sort of little peaks in those levels or a slightly higher plateau in those levels around the middle of February when there were a couple of over 3, but certainly in the latter period, may I take it, those levels are not of an order to give concern to a clinician?

A. No. When I looked at the higher levels in February I wondered whether there was any possibility that the collection time might be a little early after the administration of the dose, but I can't be sure.

Q. Yes. Certainly in the latter part of her stay in the Hospital, the levels are entirely satisfactory, are they not?

A. Yes, they are.

Q. Can we just look quite briefly at the course of this child from her return







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to the ward after the second emergency visit to the  
ICU. That begins at page 168 of Volume 1.

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A. Yes.

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Q. Ward 4B admission note

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March 7, 3 o'clock in the afternoon, and that merely  
records the history of what has happened to this  
child; first of her having come to the ward on  
March 2nd and then having been sent back to the ICU  
on the 4th and so on.

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Top of page 169, current problems,  
it's got a recurrent fever. Now, nutrition, she's  
got to be fed, as far as the third cardiac problem  
is concerned, what is SBE, please?

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A. That's short for

subacute bacterial endocarditis, meaning an infection  
inside the heart on the valves or the holds or  
something of that sort.

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Q. Thank you. She is voiding

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well, blood urine nitrogen, creatinine normal and  
the continuing digoxin and diuretics.

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Okay, page 171, the first nursing  
note after her return from the ICU "Return from the  
ICU this afternoon". Indications there, are there  
not, that the child is not particularly stable and  
settled and happy, very distressed and restless, just

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below half way down the page, the summary at the bottom "Michelle probably has CCF", which I take it is another version of CHF, is it?

A. Yes.

Q. Congestive cardiac failure with increased liver size and increased - is that rash distress - oh, respiratory distress and probably pulmonary congestion.

A. May I have the page again?

Q. I'm sorry, page 171, the left hand side, bottom of the page Summary.

A. Yes.

Q. That is Costigan's note, it's not a nursing note at all.

A. Yes, but that's from the associate resident, yes.

Q. Yes, it's a resident's note.

The nursing note for the later part of the day shift, the late afternoon, page 172 "Condition slightly improved after lasix", and then next entry "Chest x-ray showing pulmonary edema" and we are going to restart digoxin.

A. Yes.

Q. Page 173 is a rather blunt note, "Looks terrible this morning, respiratory rate





I.4

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3 up, very distressed, chest sounded very wet with  
4 course crepitations everywhere, question is whether  
5 the heart size has increased."

6 By the middle of the afternoon, not  
7 much better, the respiratory rate has gone down again,  
8 much less indrawing, chest sounds almost clear now.  
9 There seems to be an episode in the first part of  
10 that day, the child seemed to be in some discomfort,  
11 difficulty, something of that sort, did she not?

12 A. Yes.

13 Q. And the following morning -  
14 I'm sorry, that same morning, the 8th, 7:00 to 11:00  
15 chest very noisy, colour poor, cyanosed, out of  
16 oxygen. At 11 o'clock, to 2 o'clock that day, chest  
17 is improved by 2 o'clock, air entries improved  
18 throughout following lasix dose. Is that quality  
19 of respiration much improved, less distressed?

20 A. Yes, I think so.

21 Q. Good diuresis, post lasix;  
22 second is settled well, top of the next page.

23 A. Yes.

24 Q. During the course of the  
25 latter part of the afternoon, the air entries  
improved throughout, colour improved slightly,  
slept very soundly, much less distressed, vital







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signs remained stable. The latter part of the day, seemed to be doing quite well.

A. Yes, that's true.

Q. The early part of the evening appears comfortable and content - four or five lines into that note on page 174 at the bottom, vital signs unchanged, remained afebrile throughout afternoon but she is perspiring, voiding well, vital signs remain stable, although in the evening she is becoming restless again, at 7:30.

A. There is a report there that one of the physicians was called because of air, decreased air entry to the left lung.

Q. I'm sorry, where do I find that?

A. That's on the note from 1700 to 1900. Is that the one you're talking about?

Q. Yes.

A. It says at 1800 Dr. Souliati informed.

Q. Oh, yes, yes. As evening comes respirations come slightly more laboured, still in oxygen but the vital signs are stable, and there seems to be this up and down quality to the progress of this child, does there not, when she is back







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3 on the ward, and what we may be able to discern is  
4 that the author of the discharge note did a sort of  
5 slow progress.

6 A. Progressed in the wrong  
7 direction.

8 Q. It may be in the wrong  
9 direction. I suggest it is a little subtle if it is  
10 progressed, isn't it?

11 A. Yes.

12 Q. By the 9th on page 176 there  
13 is a physio note in the right upper lobe and the left  
14 upper lobe there are densities, pulmonary edema  
15 and the nursing note below that 7:15 to 9:15 chest  
16 slightly noisy, especially in the upper lobes; and  
17 so the thing goes on.

18 When we get to March 11th, which is  
19 the last day of the child's life, could we look first  
20 please at page 181, the nursing note. The nursing  
21 note there, it appeared 1930, 7:30 in the evening of  
22 the 12th of March to 2:30 in the morning of the 13th  
23 of March, baby was irritable most of the night,  
24 would not feed and 20 to 40, I take it cubic  
25 centimetres of feed, fed three times at 9:30, 12:30  
and 2 o'clock, vital signs were stable, she records  
them, outputs 51 cente urine, and what's that, three  
seedy brown yellowie stools?

A. Yes.





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Q. She doesn't sound particularly comfortable but equally as it's here, Doctor, not in any obvious distress at that stage; a bit irritable but not in ---

A. Well, I think it was irritable most of the night.

Q. Yes.

A. There has to be something going on there.

Q. Suddenly, nurse's word, baby wasn't breathing, there was nothing on the monitor, it read nil. There was no other signs. At 0200 signs APEX 144, respirations 48, baby was fine until 2:30, 25 called an Arrest Team arrived, CPR stopped at 3:35.

Now, in some respects that note doesn't tell us very much about what happened between 2 o'clock and 2:30.

A. No.

Q. There might have been very great interest to know that might it not, Doctor?

A. I think so.

Q. But obviously something happened at 2:30 to cause the nurse to call a Code 25. I'm not quite sure what it could have been. But can we then look at the arrest on page 180. That records



1  
2 3 o'clock in the morning, 12th, called 25, baby  
3 had bradycardia and subsequently cardiac arrest.  
4 That maybe helps us to fill in the blank in the  
5 nursing note. And then a bit of history of the  
6 child, post-operation had several problems, looking  
7 at third and fourth line, most serious is a brady-  
8 cardia and hypoxia, following which, I believe - I  
9 can't read the next bit - and had jaundice. This  
10 seems to be more a history of this child than a  
history of resuscitation efforts, does it not?

11 A. Yes.

12 Q. And it is really when you get  
13 to 181 we find a bit about the resuscitation, arrest  
14 team was called, last paragraph, could not revive the  
15 baby. The baby declared dead at 3:45.

16 A. I think, Mr. Lamek, there is  
17 a ---

18 Q. There is something in the course  
19 of that, isn't there?

20 A. There is nothing very much there  
21 but there is something on page 183.

22 Q. The top of the page.

23 A. 183.

24 Q. Yes, thank you, that's what I  
25 was looking for.





DD2-3

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A. I think the other note - if  
I may just comment.

Q. Yes.

A. The other note was a resident  
on the ward who was writing up his account of what  
went on.

Q. More in the nature of a death  
note, is it not?

A. Yes.

Q. Than a whole history.

A. Not so much detail.

Q. Yes, thank you, thank you.

Page 183 they record "On arrival Michelle was  
receiving cardiopulmonary resuscitation and just  
starting to be bagged". I can't read that word -  
monitor.

A. Monitor showed ---

Q. Monitor showed bradycardia  
nodal rythm, 60 a minute.

A. Yes.

Q. Anaesthetist arrived.

A. Yes.

Q. When opening mouth full of  
food, some also on the pillow. Is that an observation  
to which you attach any significance, Doctor?







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A. Yes.

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Q. What does that mean?

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A. That suggests that that baby aspirated, vomited and aspirated or at least regurgitated and aspirated food.

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Q. And, what, producing a choking situation?

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A. Producing - well, depends on how sick they are as to how much they will choke. But it is a situation of high danger in somebody who is debilitated like this of aspiration.

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Q. Okay. Suction and intubated quickly and then minimum response to ventilation or drug. It goes on to record the attempts made and the drugs administered, adrenalin given, no response, progressive bradycardia. What is that, deteriorating?

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A. Deteriorating, yes.

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Q. Three doses of adrenalin given into the heart, is that what that means?

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A. Yes.

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Q. But no response?

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A. Yes.

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Q. Cardiology fellow was there, Dr. somebody was on the telephone?

23

A. Dr. Duncan, he's the staff

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cardiologist.

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Q. Yes, Dr. Duncan, and advised against pacing as the last resort, and that's the thing that we have seen before, isn't it?

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A. Yes.

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Q. Resuscitation stopped after one hour approximately and Dr. Costigan gives us his diagnosis "Probable aspiration of hypoxia producing pulmonary ..." I can't read that.

10

A. "hypertension".

11

Q. Thank you.

12

A. I think.

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Q. Progressive bradycardia to asystole?

A. Yes.

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Q. Now, Dr. Bain at page 5 of his report refers to this child. He says this:

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"This child is placed... " in what he called "Category 1B", the category upon which he thought there should be some comment or word of explanation:

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"...only because she suddenly deteriorated after beginning to improve".

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And to that extent he seems to have adopted the author of the discharge notes in view of the chart, does he not, beginning to improve?

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A. Yes.





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Q. In other words, he did have a stormy postoperative course and developed hepatitis with hepatic failure and a heart failure had not cleared. In addition she also grew Staphylococcus epidermidis in her bloodstream. It was felt that she might have aspirated a feeding, but unfortunately there was not a post mortem. I take it post mortem would have disclosed whether indeed there had been some aspiration there?

A. Yes.

Q. So the presence of food in the mouth during the arrest or at the time of the arrest is suggestive of the possibility that there may have been some aspiration which may, I take it, have triggered the course of events?

A. Yes.

Q. But unfortunately we do not know that for sure. In the absence of any evidence of aspiration, Doctor, are the terminal events of this child and the manner of their onset and progress consistent in your judgment with her physical and clinical condition?

A. In the absence of aspiration?

Q. In the absence of evidence of aspiration, since we cannot be sure that that is what





JJ.2

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triggered anything, putting it shortly and perhaps differently, was her death sudden and unexpected in any way?

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A. Yes, I think it was sudden.

6

Q. Was it unexpected?

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A. But I do not know that it was unexpected perhaps. I think her course, as I judge it, during that last week was not good. She had had a long and terrible course. I think the fact that she was alive at that stage is a great testimonial for those who were looking after her.

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But I think that the event, she stopped breathing as far as one could see from the notes, and I think she must have had a respiratory arrest, and I think it is logical to suppose that the last final straw was the probability of aspiration.

16

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Q. Doctor, is apnea known to be a symptom of digoxin toxicity?

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A. Apnea?

Q. Yes.

A. I do not think so.

Q. I must confess it is not one that I had heard of.

A. No.

Q. But I was interested that you







JJ.3

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say and quite rightly from the chart that the child stopped breathing.

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A. Yes, but apnea is a common symptom in people who are very severely ill and are very young like this. They are liable to become apneic if they have a very severe involvement.

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Q. Did any of the cardiologists on the staff or any of the Cardiology Fellows raise any question with respect to the cause of death of this child?

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A. I am not aware that anybody did.

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Q. After all, she died at a time when there was a good deal of concern about deaths on the ward, obviously.

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A. Yes.

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Q. Did anyone, to your knowledge, suggest that this death was in any way to be viewed with suspicion or concern?

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A. No, I think the points that were raised were the severe congestive failure, the possibility of sepsis and aspiration. Those were the only things I can recall anybody raising.

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Q. Doctor, are you aware of any postmortem digoxin sampling that was done on this child?

A. I do not think I am, no.





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Q. Doctor, just before we end, there is a question that I want to ask you, going back to two children that we considered earlier in the day, that is to say, Jordan Hines and Kevin Pacsai.

I am finished for now with the Manojlovich case. We have discussed earlier the digoxin books of Dr. Ellis, and I am looking now, Mr. Commissioner, at Exhibit 45 from the Preliminary Hearing at page 28 in that exhibit.

Now, Dr. Rowe, you may or may not know anything about this, but I will point it out to you first. On the previous page, page 27, the date under which the last listing is set out is 20th of March, and that appears to continue on to page 28.

Now, Items 17 and 18 on page 28 are identified as being specimens of lung and heart respectively from a child called, in this document, Hinds, H-i-n-e-s, and Samples 20, 21 and 22 are identified as being samples of heart, brain and lung and trachea from a child identified by Pacsai, P-a-c-s-a-i. There are levels which I think I read as being less than 0.2 on the right-hand column with no identification in between. As I read it, it appears that attempts were made to assay these samples for digoxin.





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Were you aware of any attempts  
having been made in the Biochemistry Department  
of the Hospital on March 20 to conduct digoxin assays  
in tissue samples from Hines or Pacsai?

A. I was not, no.





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Q. If such attempts were made,  
is this the first time that you have been aware of  
them today?

A. That is the first time I  
have seen anything like that.

MR. LAMEK: Doctor, thank you  
very much.

THE COMMISSIONER: Why do you say  
less than 0.2?

MR. LAMEK: Well, I am not sure  
what that first digit is, and I think we have to  
ask Dr. Ellis. There seems to be a symbol before  
the 0.2, Mr. Commissioner. I am not quite sure.

THE COMMISSIONER: It is not the  
one I am used to for less, that is all.

MR. LAMEK: No, it is not the  
one I am used to either, but it is like no numeral  
I have ever seen either. I think it is a symbol of  
some sort. It may be 'U' for under.

THE COMMISSIONER: If there was just  
one of them, I would think it was a 4, but there  
seems to be too many that look like W's or H's or  
something.

MR. LAMEK: As I recall, 0.2 was  
the lower threshold of positive identification







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that Dr. Ellis referred to.

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Q. Well, we will ask him about  
them but you had no knowledge until today of any  
such assays?

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A. I had never seen anything  
like that.

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MR. LAMEK: Dr. Rowe, thank you  
very much.

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Mr. Commissioner, may we leave it  
there until 9:15?

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MS. MCINTYRE: Mr. Commissioner,  
I would like to raise the question about the detailed  
autopsy reports. I mentioned this to Mr. Lamek and  
to Mr. Rowe last week that we do not seem to have  
the detailed autopsy reports on most of the cases  
that we dealt with prior to this week, and I believe  
they undertook to see if those were available.

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THE COMMISSIONER: I am sorry, what  
are the detailed ---

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MS. MCINTYRE: That is the 12-page  
detailed autopsy report.

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THE COMMISSIONER: Rather than the  
report that goes back to the Hospital, because we





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2 have certainly those.

3 MS. McINTYRE: Yes, the final  
4 autopsy report, as I understand it, is a synopsis  
5 of the complete autopsy report, and we do have them  
6 in some of the cases that we dealt with this week  
7 and it is a 12-page document that details all of  
8 the final autopsy.

9 MR. LAMEK: Mr. Commissioner,  
10 every autopsy report, in whatever form it may be  
11 that is available to me in the Hospital reports,  
12 has been produced and provided. Whether there is  
13 real interest in knowing what the minutiae of the  
14 pathological investigation may have been, and  
15 there are a couple of them in the reports that we  
16 have, records that we have, I do not know if there  
17 is some real concern ---

18 THE COMMISSIONER: Well, I have  
19 some considerable doubt that it would do more than  
20 just -- what is your concern?

21 MS. McINTYRE: Well, Mr. Commissioner,  
22 for example, in the Hines' case, we do have both  
23 the final autopsy report and the ---

24 THE COMMISSIONER: Yes, I know, but  
25 is there a difference? Is there some difference  
that you can point to?





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MS. McINTYRE: There is a substantial difference if I would ask you to refer to Exhibit 103A, which we were just given.

THE COMMISSIONER: Well, that is the only one we have, though, is it not? We do not have the final ---

MS. McINTYRE: We now have the final autopsy report of that as well as the detailed autopsy report to which I referred.

THE COMMISSIONER: I see. And there is a difference you say?

MS. McINTYRE: There is a substantial difference, Mr. Commissioner.

THE COMMISSIONER: What is the difference?

MS. McINTYRE: The final autopsy report deals with what the pathologist, as I understand it ---

THE COMMISSIONER: Could I see 103A? 103A is the final report, is that the detailed report?

MS. McINTYRE: That is correct, and attached to my copy of 103A is the detailed autopsy report. It also is found at page 14 of Exhibit 103, which is the entire medical report.







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The detailed autopsy report gives all the details of the pathological findings that are made on the autopsy in all areas, whereas the final report ---

THE COMMISSIONER: Well, the only person we could possibly get that from would be the pathologist or at least the Coroner's Office or somebody, or whoever did the -- would the Hospital for Sick Children have this, is this your thought?

MS. McINTYRE: I assume they would. After I raised the question in the medical records that were produced this week, the detailed reports have been included, but in the ones prior to this week they were not included, so I assume the Hospital has them available.

THE COMMISSIONER: Well, who is here from the Hospital, I wonder? Now, can you help us with that?

MR. BALLY: We can investigate that, Mr. Commissioner.

THE COMMISSIONER: Would you do that and see what you can find? Do you want these for all of the children?

MS. McINTYRE: Yes, I would, if they are available, Mr. Commissioner.

MR. LAMEK: Mr. Commissioner, may







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I ask for what purpose?

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MR. STRATHY: I simply stand to support my friend's request.

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THE COMMISSIONER: I would certainly go so far as to say that have them available for examination, but please do not put them in if they are not going to tell us anything more than we already know or if they are going to tell us something that we really cannot digest. But really, I am sort of speaking to the Hospital for this to produce them, and we can examine them, and in the course of cross-examination, if you want to, you can bring them up. But please do not bring them up unless they tell us something more than we already know. We do not just want them to add to the bulk of the paper.





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Anything else?

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MR. LAMEK: If I may,

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Mr. Commissioner, just to mark on the record that

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I propose to deal with tomorrow. There are five,

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and this way, counsel may have them this evening.

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THE COMMISSIONER: Yes, all right.

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MR. LAMEK: Q. Doctor, I am showing

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to you what I understand to be a copy of the

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Hospital record of Kristin Inwood. Would you so

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identify it for me, please?

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A. It is the record of Kristin

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Inwood.

THE COMMISSIONER: 113.

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---EXHIBIT NO. 113: Medical Records of Kristin  
Inwood.

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MR. LAMEK: Q. Thank you, sir.

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Next, the Hospital record of

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Charlon Gardner.

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A. That is the record of Charlon

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Gardner.

THE COMMISSIONER: 114.

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---EXHIBIT NO. 114: Medical Records of Charlon  
Gardner.

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MR. LAMEK: Q. And next, that of

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Allana Miller.

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A. That is the record of Allana

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Miller.

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MR. LAMEK: Thank you, sir.

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THE COMMISSIONER: 115.

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---EXHIBIT NO. 115: Medical Records of Allana  
Miller.

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MR. LAMEK: Q. And next the

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record of Justin Cook.

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A. This is the record of

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Justin Cook.

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MR. LAMEK: Thank you, Doctor.

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---EXHIBIT NO. 116: Medical Records of Justin  
Cook.

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MR. LAMEK: Q. And finally, to

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make the circle complete and come back to June the  
30th, 1980, the record of Laura Woodcock?

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A. That is the record of Laura

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Woodcock.

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---EXHIBIT NO. 117: Medical Records of Laura  
Woodcock.

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MR. LAMEK: Dr. Rowe, thank you

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very much.

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THE COMMISSIONER: As I understand

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it, Mr. Lamek, we have those five plus the one we  
have ---

MR. LAMEK: Inwood, I believe.

THE COMMISSIONER: No, Gionas.

MR. LAMEK: Gionas, that is  
right, six to do tomorrow. They are all happily short  
ones.

THE COMMISSIONER: Yes, all right.  
Well then, 9:15 tomorrow.

MR. LAMEK: Thank you, sir, yes.

---Whereupon the hearing adjourned at 5:30 p.m.  
until Thursday, July 28th, 1983 at 9:15 a.m.

